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MARCH 1949 • VOLUME 38 • NUMBER 3

DENTAL ROENTGENOGRAPHY

III: THE ROENTGENOGRAPHIC PERIAPICAL SURVEY OF THE UPPER MOLAR REGION

Gordon M. Fitzgerald, D.D.S., San Francisco

THE complete roentgenographic record of the upper molar region should depict with a high degree of anatomic accuracy the shadow images of all the teeth and adjacent structures in this part of the maxilla. In most cases, these images, individually or collectively, should not be obscured by the superimposed shadows of the zygomatic arch and process.

For interpretive purposes roentgenograms of the teeth and other structures in this region should include mainly: the distal half of the second bicuspid; the first and second molars; all or a portion of the third molar, depending on its position in the alveolus or on the projection used; the tuberosity; the floor and a portion of the anterior and posterior walls of the maxillary sinus, and the alveolar bone adjacent to and beyond the apexes of the teeth.

When the shadow images are depicted with a high degree of anatomic accuracy, the crowns of the teeth will be in profile with little or none of the occlusal surface showing, depending on the anatomy of the particular teeth. The true root lengths of each tooth will be revealed with a minimum of foreshortening or elongation and the contacts and interdental spaces will be open, making it possible to view across the crest of the dental ridge.

The roentgenogram displaying the above features will show accurately the relation between caries and the dental pulp, the extent and type of alveolar resorption, if present, and the characteristics of the alveolar bone.

At this point, it would be well to name the factors, anatomic and technical, that cause this region to be considered by many operators the most difficult part of the jaws to portray unobscured and with any degree of accuracy on the dental roentgenogram.

These factors are: the height of the palate, which may be limited; the bulk

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Division of Dental Roentgenology, College of Dentistry, University of California.

of the molar teeth and the slightly different inclinations of their long axes; the trifurcation and divergence of the molar roots; the direction of the contacts, which ordinarily are not at right angles to the ridge as is usually true in other parts of the jaws; the widely varied position of the third molar in the tuberosity; the prominence of the zygoma, and the fact that this dense, bony structure is considerably farther from the film packet than the dental structures; and last, the presence of the gag reflex in many patients, a factor that can make this region the most uncomfortable part of the patient's mouth to roentgenograph.

Although these factors can make the work of the operator more difficult, usually they need not be considered insurmountable. If a precise technical procedure is carefully employed, and if the operator does not limit the examination to the use of one film, as is commonly done, it is possible to survey the upper molar region roentgenographically and show all the structures with a high degree of anatomic accuracy and without obscuring shadows.

The technical procedure to be discussed here has been used for some years with consistently good results at the College of Dentistry of the University of California, both in clinical work and for student instruction. The fundamentals involved are easily visualized and are relatively simple to put into practice in

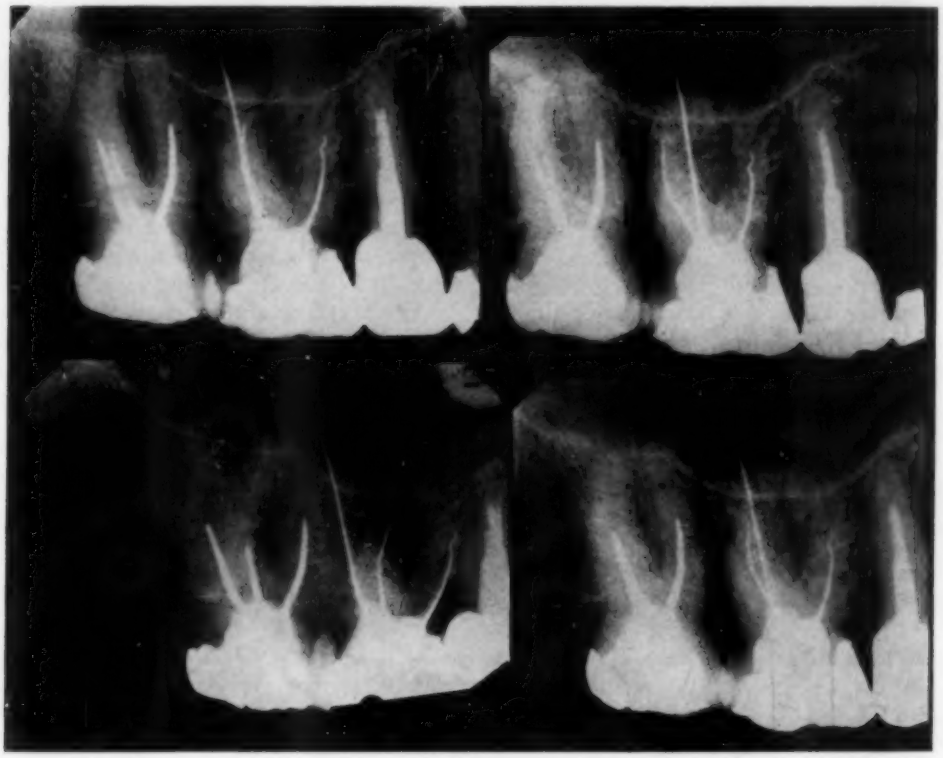

Fig. 1.—Examples of changes in horizontal angulation with the extension cone technic. Individual root apexes are shown in relief by means of mesial and distal oblique projections, thereby revealing to a greater extent the regions of periapical rarefaction

the dental office. Since only the technical procedure is to be described at this time, it is suggested that those wishing more detailed information regarding the fundamental background of this roentgenographic technic refer to two previous articles published in THE JOURNAL.[1, 2]

The upper molar region usually consists of three teeth somewhat similar in anatomy but somewhat dissimilar in their inclinations in the alveolus, contact directions, and, many times, in their relations to one another or to adjacent anatomic structures. This is especially true of the third molar, which is subject to much variation both in anatomy and position in the tuberosity.

Such being the case, it has been found necessary to treat each tooth in this region in a separate manner roentgenographically. Since it has been proved desirable for interpretative purposes to project the images of each tooth completely on the roentgenogram, to show each of the three roots in relief, if divergent (Fig. 1), to open all contacts and to explore all of the tuberosity, three projections have been used in this region. They are the lateral, or first molar; the mesial oblique, or second molar; and the distal oblique, or third molar projection. Each of these projections serves a definite purpose in the examination of this region, and each supplements the other.

The Lateral Projection

This projection is usually termed the lateral projection because the horizontal angulation is projected laterally, or perpendicularly to the dental ridge in this region. It is sometimes termed the first molar projection because the inclination of the first molar in the alveolus is used as a guide for positioning the film packet and determining the degree of vertical angulation.

The following anatomic structures should be shown in a typical lateral molar projection: the distal half of the second bicuspid, the first and second molars, and third molar if fully erupted and in position, the maxillary tuberosity and the floor of the maxillary sinus. Also in evidence should be the hamular process of the sphenoid bone and a portion of the coronoid process of the ramus of the mandible. The contacts between the second bicuspid and the first molar and between the second and third molars may be open, although usually the contacts between the second bicuspid and the first molar and between the first and second molars will be closed (Fig. 2).

Two methods of film retention are used routinely for all three molar projections. In most cases, the method that employs the filmholder and the accessory metal film backing is the quickest, easiest and most practical (Fig. 3, left). The accessory metal backing is placed on the back of the film packet with its feathered edge toward the tissue edge of the packet, and its shelf in contact with the opposite edge. It is advisable to have the identification dot of the film packet toward the shelf edge of the metal film backing. A full bite with the jaws of the filmholder is made at the shelf side of the packet and the backing, as close to the edge as possible. The rubber bite block is pulled back so that there is a ¼ inch space between the mesial edge of the film and the bite block. When the handle of the filmholder has been rotated in the bite block so that the surface of the film is properly inclined, the film is ready for placement in the mouth. The film is carried into the mouth in a horizontal position, and then rotated so that the tissue edge of the packet comes to rest against the palate in the proper position for the region. As the film packet comes to rest, the bite block is kept against

1. Fitzgerald, G. M., Dental Roentgenography I: An Investigation in Adumbration, or the Factors That Control Geometric Unsharpness. *J.A.D.A.* 34:1 (Jan. 1) 1947.

2. Fitzgerald, G. M., Dental Roentgenography II: Vertical Angulation, Film Placement and Increased Object-Film Distance. *J.A.D.A.* 34:160 (Feb. 1) 1947.

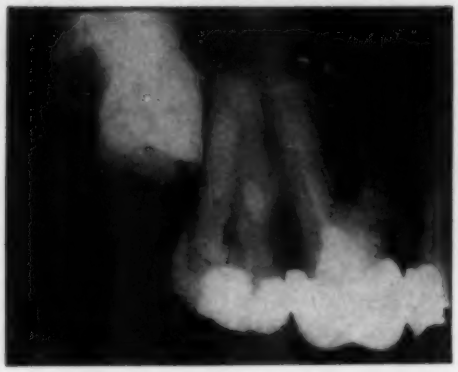

Fig. 2.—Lateral, or first molar, projection. There is no distortion of the buccal or lingual roots; the crowns show in profile; the interdental spaces are open; the floor of the maxillary sinus and the apexes of the teeth are not obscured by superimposed shadows

the incisal edges of the upper centrals. The patient bites firmly against the bite block, holding the film and filmholder in the mouth and stabilizing the film placement.

For the second method (Fig. 3, right), three cotton rolls, the metal film backing and the patient's thumb are employed. This method of film placement is used when it is impractical to use the filmholder. Two cotton rolls, one atop the other, are placed along the coronal side of the film packet. (The metal film backing has been adapted to the packet as previously described.) The film, the backing and the two rolls are held together and placed in the mouth so that when the cotton rolls are between the film and the lingual surfaces of the crowns of the teeth, the packet will have the correct inclination. During this time, and until the film placement is completed, it is important for the operator to maintain positive control of film and rolls.

Next, to stabilize the film placement, the pad of the patient's thumb is placed against the palate in contact with the upper front portion of the packet, and a third cotton roll, on which the patient bites, is placed diagonally under the lower distal corner of the film. When the patient bites gently, the thumb holds the mesial portion of the film in position, and the third cotton roll holds the distal portion up in place against the soft palate, compressing it somewhat.

The inclination of the first molar is used as the guide in film positioning (Fig. 4). Generally, the alignment of the long axis of the first molar shows the crown tipped buccally.[3] The inclination of the teeth present in the molar region

3. MacMillan, H. W., The Structure and Function of the Alveolar Process. *J.A.D.A.* 11:1059 (Nov.) 1924.

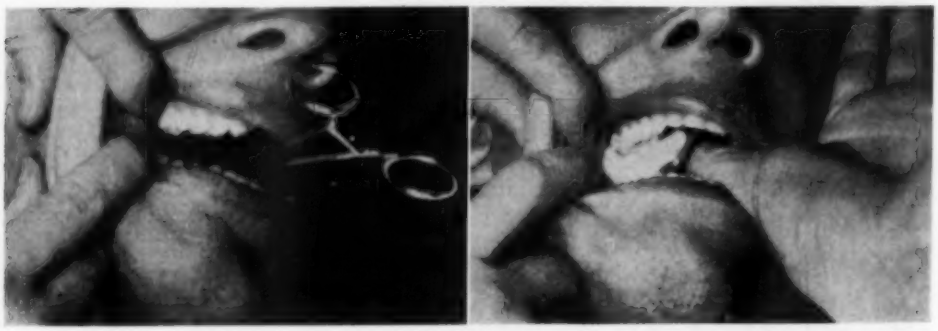

Fig. 3.—Left: The filmholder method. The film is placed in the mouth with increased object-film distance. The upper and lower anterior teeth hold the bite block of the filmholder, thus stabilizing the film placement. Right: The cotton roll method. Three cotton rolls, with the aid of the patient's thumb, maintain proper inclination of the film packet and keep it at a distance from the teeth

is readily determined by inspection.

When positioned in the mouth so that the plane of the film is parallel to the long axis of the first molar, the tissue edge of the packet should be beyond and parallel to the median suture line, away from the teeth being roentgenographed (Fig. 5, left). The packet should be placed far enough back in the mouth so that not more than the distal half of the second bicuspid is shown on the film. The film placement is altered when a low, flat palate is present. Many low palates are also wider laterally; consequently, it is possible to obtain good results by shifting the packet even farther across the mouth, away from the teeth. This change in film placement is accomplished more easily and effectively by using the filmholder.

The determination of the direction of the vertical angulation is the next step of importance in this technical procedure. The extension cone is maneuvered so that the path of the x-radiation is directed at right angles to the film packet (Fig. 5, right); therefore, when the vertical angulation is directed parallel to the plane of the handle of the instrument, a good guide is obtained for the correct vertical angulation, and the need for looking in the mouth to check

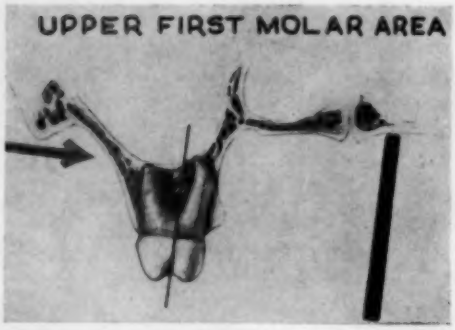

Fig. 4.—The film packet is placed beyond the mid-suture line and positioned to match the inclination of the long axis of the first molar. With the central beam maintained at the apexes, the direction of the vertical angulation is perpendicular to the two parallel planes

the inclination of the film packet is eliminated. The vertical angulation usually ranges from about plus 6 to about plus 22 degrees.

The horizontal angulation then is directed perpendicularly to the alveolar ridge in the molar region.

The extension cone is placed in positive contact with the patient's face so that the central beam is directed at the apex of the distobuccal root of the first molar; that is, at the ala-tragus line, just under the prominence of the zygomatic

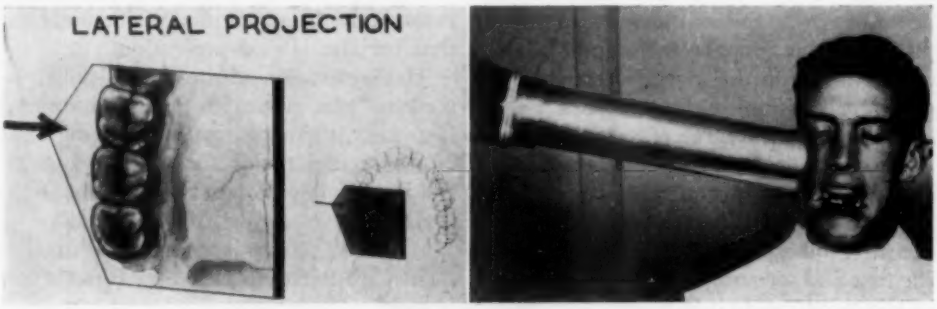

Fig. 5.—Left: The tissue edge of the film packet is positioned in the palate beyond and parallel to the mid-suture line, away from the teeth being examined. The horizontal angulation then is directed at right angles to the dental ridge in this region. Right: The lateral projection. Note the placement of the extension cone, and the paralleling of the central beam and the plane formed by the handle of the filmholder

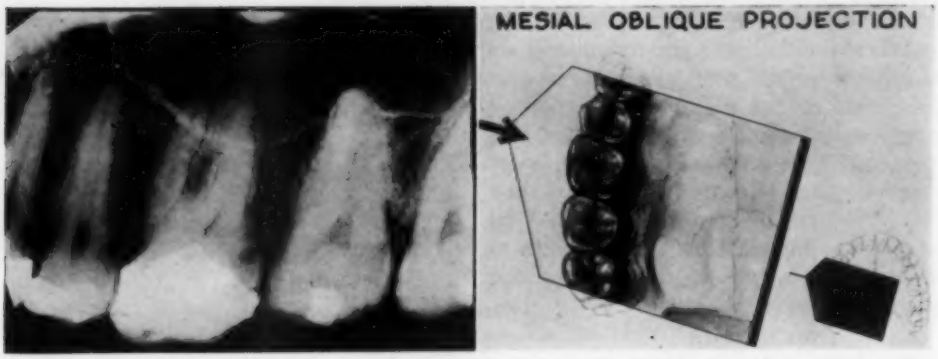

Fig. 6.—Left: Mesial oblique, or second molar, projection. The teeth show in profile. The shadows of the zygoma and torus palatinus are diminished in size and are slightly discernible in the middle and anterior upper edge of the film. Right: All portions of the tissue edge of the film packet are beyond the mid-suture line, forming a slight angle with it. The horizontal angulation is directed through the contact between the first and second molars

process where it is joined by the key ridge. The top of the extension cone usually rests against the face slightly distal to the outer corner of the eye on an average sized face, higher on a smaller, and lower on a longer face.

The Mesial Oblique Projection

Although the mesial oblique projection could be called the contact projection because of the direction of the horizontal angulation, it is usually termed the mesial oblique because the horizontal angulation is directed toward the film packet in a mesial oblique direction. Sometimes, however, it is called the second molar projection because the inclination of the second molar in the alveolus is used as a guide for positioning the film packet and determining the degree of vertical angulation.

The anatomic structures shown in this projection usually are: the distal half of the first bicuspid, the second bicuspid, the first and second molars, and a portion of the third molar if it is erupted and in position. The contact between the first and second bicuspids, the second bicuspid and first molar, and the second and third molars may be shown open. The floor of the maxillary sinus should be in evidence above, or closely adjacent to, the apexes. Because of the direction of the horizontal angulation, the maxillary tuberosity usually will not show on the film (Fig. 6, left).

The method of retention of the film packet for this projection is essentially the same as in the lateral projection, except that the bite block of the film-holder is placed against the incisal edges of the upper central and lateral incisors opposite the side being examined, instead of bearing against the two central incisors. When the cotton roll procedure is used, the film retention is identical to that for the lateral projection.

The inclination of the second molar is used as the guide in film positioning. Generally, the alignment of the long axis of the second molar shows more buccal tipping of the crown than in the first molar.

When the film is positioned in the mouth so that the plane of the packet is parallel to the long axis of the second molar, the tissue edge should be beyond the median suture line and at a slight angle to it, with the apex of the angle at the distal corner of the packet (Fig. 6,

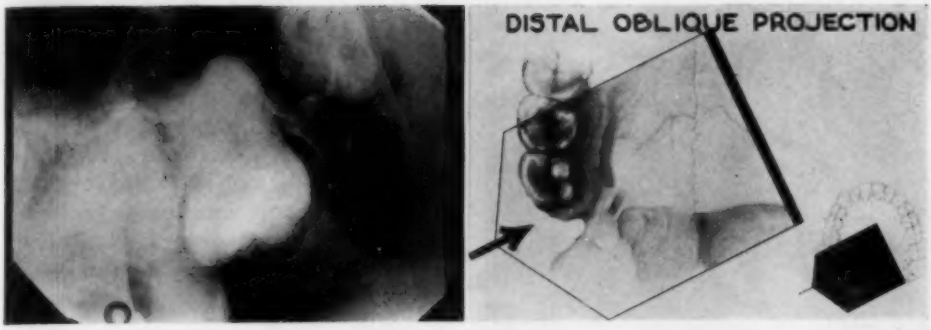

Fig. 7.—Left: Distal oblique, or third molar, projection. This typical example displays all of the unobscured impacted third molar and tuberosity centered on the roentgenogram. Right: The entire tissue edge of the packet is positioned beyond the mid-suture line, forming a distinct angle with it. This placement should put the distal tissue corner in positive contact with the opposite tuberosity. The horizontal angulation is directed just under the notch on the inferior border of the zygomatic arch

right). This is accomplished by placing the film back in the mouth as though for a lateral molar projection. Then, by using the distal tissue corner of the film as a pivot, the mesial portion is shifted laterally across the mouth and positioned so that the mesial tissue corner is fairly close to the opposite ridge approximately in the region of the second bicuspid.

The extension cone is brought into place for the vertical angulation and shifted so that the path of the x-radiation is directed at right angles to the plane of the film, which should be parallel to the long axis of the second molar. Again the handle of the filmholder as it protrudes from the mouth serves as a good guide in obtaining the correct vertical angulation. The vertical angulation usually ranges from about plus 8 to about plus 26 degrees.

For the horizontal angulation, the extension cone is shifted so that the x-radiation is directed through the contact between the upper first and second molars. This contact is usually mesial oblique in direction.

The central beam is directed at the apexes of the second molar; that is, at the ala-tragus line, just under and slightly anterior to the prominence of the zygomatic process.

The Distal Oblique Projection

This projection should show the distal half of the first molar, the second molar, and all of the third molar regardless of its position in the tuberosity. The tuberosity, the distal wall and a portion of the floor of the maxillary sinus, the hamular process of the sphenoid bone, a portion of the coronoid notch, and the coronoid process of the ramus of the mandible should be in evidence also. Because of the direction of the horizontal angulation, usually all the contacts are closed (Fig. 7, left).

Retention of the film is accomplished for this projection in the same manner as for the lateral and mesial oblique projections, except that the bite block of the filmholder is kept against the incisal edges of the upper central and lateral incisors on the side being examined.

The cotton roll procedure is followed in the same manner as described previously, except that occasionally one of the two cotton rolls between the crowns of the teeth and film will not be used

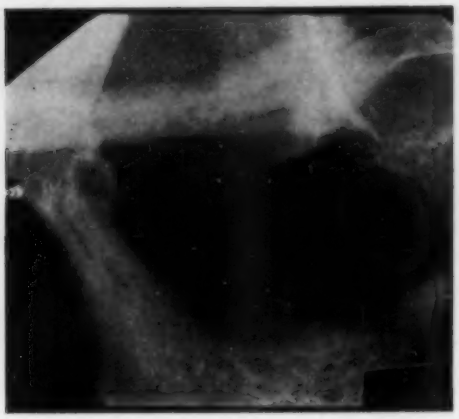

Fig. 8.—Example of an intraoral roentgenogram depicting the neck and a portion of the head of the condyle

when a greater inclination of the plane of the packet is indicated.

If the third molar is erupted, its inclination is used as the guide in film positioning. Generally, the alignment of the long axis of the third molar shows the crown tipped buccally even more than the crown of the second molar. If the third molar is not erupted, it is routine practice to incline the film packet to a degree greater than that used for the mesial oblique projection in order that all the maxillary tuberosity will be completely examined.

When positioned in the mouth so that the plane of the film is parallel to the long axis of the third molar, the tissue edge of the packet is beyond the median suture line forming an angle with it, the apex of the angle being at the mesial corner of the packet. This is accomplished by placing the film back in the mouth as though for a lateral molar projection; then, using the mesial tissue corner as a pivot, the distal portion of the film is shifted laterally across the mouth and positioned so that the distal tissue corner is in positive contact with the opposite tuberosity (Fig. 7, right).

With the film so positioned, the tissue edge and corner of the film packet should cause a blanching of the soft tissues covering the lingual surface of the tuberosity. By using the entire width of the distal portion of the upper arch for the film placement, it is usually possible to project all of the maxillary tuberosity on the film without resorting to extreme plus vertical angulation, and without obscuring the structures and tissues present with the shadows of the zygomatic arch and process.

The object-film distance used in a typical distal oblique projection is considerably greater than that employed in any other routine projection in either the upper or lower jaws.

The vertical angulation again is determined by either the inclination of the film or of the handle of the filmholder as it protrudes from the mouth. The range of the vertical angulation is from about plus 15 to about plus 36 degrees, depending upon the position of the third molar or the anatomy of the tuberosity and the zygoma.

The direction of the horizontal angulation is important if the third molar and the tuberosity are to be shown centered on the roentgenogram. To accomplish this, the extension cone is pointed downward and forward so that the x-radiation is directed just under the notch on the inferior border of the zygomatic arch. This is in a distal oblique direction toward the film. The notch can be palpated on the side of the face anterior to the condylar joint and about a finger's width from it.

The central beam is directed at the apexes of the third molar; that is, at the ala-tragus line, just under the zygomatic arch and distal to the height of prominence of the zygomatic process.

A modification of the distal oblique projection has been employed successfully for the examination of the neck of the condyle. It has been found possible with this modified, intraoral projection to display greater, unobscured detail of the

neck and, in many instances, the head of the condyle, than can be demonstrated with the conventional roentgenographic examinations used in dental practice.

At this point, it is well to state that this condyle projection is considered to be still in the experimental stage, and to date has been used only as a supplementary type of examination.

The following will be in evidence on the roentgenogram: the neck of the condyle; a portion or all of the head of the condyle and the coronoid notch; part of the zygomatic arch, and in some instances, some of the eminentia articularis. Usually the distal aspect of the maxillary tuberosity and the hamular process of the sphenoid bone will be shown also (Fig. 8).

The film placement is identical with that used for the distal oblique projection, and is best accomplished with the film-holder and metal film backing method of film retention.

Usually the inclination of the plane of the packet is slightly steeper than that used for a typical third molar projection; consequently the vertical angulation is somewhat greater also.

The direction of the horizontal angulation is the most critical of all the factors involved. Upon determining the position of the condylar joint in the rest position, the central beam should be centered on this structure, and the horizontal angulation should be directed downward and forward toward the center of the film packet. This is a distal oblique direction.

General Considerations

With the patient seated upright in the chair, the position of the head for all

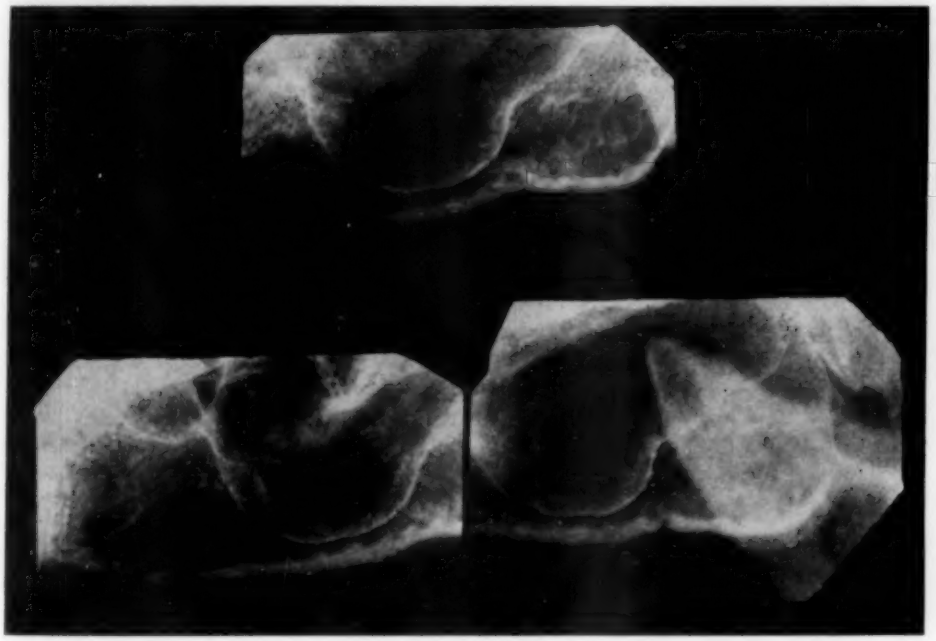

Fig. 9.—Examples of the three projections in an edentulous upper molar region. The crest of the alveolar ridge has resorbed almost to the level of the floor of the maxillary sinus. Of interest is the thickened corticalis on the crest of the ridge

Fig. 10.—Examples of mesial oblique (left) and distal oblique (right) roentgenograms. The shadow of a torus palatinus is partly revealed on the upper left corner of the mesial oblique projection

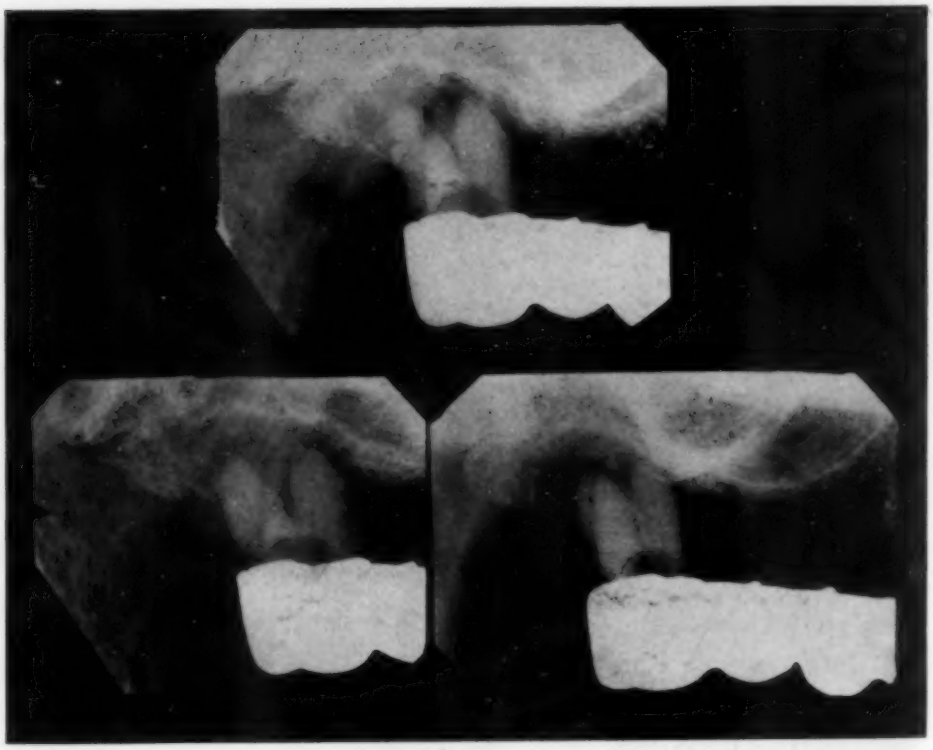

Fig. 11.—The value of oblique projections is shown in the three roentgenograms above. This patient had a low palate, a short vertical dimension, and a heavy, prominent zygomatic process and arch. The shadow of the zygoma is shifted mesially on the lateral (above), distally on the mesial oblique (lower right), and so far mesially that it is off the film of the distal oblique (lower left) projection

these projections is such that the upper occlusal plane is maintained parallel with the floor, and the median sagittal plane is perpendicular.

The regular size film (1¼ inch by 1⅝ inch) is used with the long dimension turned horizontally.

Although all of the complete dental roentgenographic surveys made in the College of Dentistry include the three projections on each side of the upper arch as described, the requisite for the examination of a single upper molar region will depend on an evaluation of the symptoms, the age of the patient and the requirements of the examiner.

For exploratory purposes, the three projections should be used (Fig. 9). For third molars that are impacted, the lateral and distal oblique projections are usually adequate (Fig. 10); for the detection of caries, the lateral and mesial oblique projections are generally sufficient.

It should be routine practice to use at least two of the three projections, and preferably the three, if there are doubts concerning the health of any of the upper molars (Fig. 11).

A SURVEY OF DENTAL DISEASES AS A DIAGNOSTIC AID IN RHEUMATIC FEVER

Martin Entine, D.D.S., Philadelphia

RHEUMATIC fever stands near the top of the list of diseases that can be classed not only as serious pathologic conditions but also as sociologic problems. The importance of this condition has been demonstrated by the establishment of a National Heart Week to focus public attention on the problem.

What, exactly, is rheumatic fever? A definition appears in the *Mitchell-Nelson Textbook of Pediatrics*:[1]

> Rheumatic fever is now recognized as a generalized infectious disease characterized by frequent recurrences or exacerbations. It may occur at any age but usually begins in childhood. The symptoms and course are extremely variable and the diagnosis is often difficult. Three major clinical manifestations, however, are pathognomonic; migratory polyarthritis, Sydenham's chorea, and carditis.

Associated with these major clinical manifestations are numerous minor symptoms, which may or may not occur. These are epistaxis, sour sweats, low grade fever, tachycardia, nausea, loss of weight, an increased sedimentation rate, anemia and, as was observed during this survey, an increased incidence of dental caries.

The serious consequences of rheumatic fever have led investigators recently to delve with renewed interest into its causes and treatment. There is still much doubt as to the cause. Most investigators suspect that the streptococcus plays the predominant role. Several theories have been advanced: one, that a specific strain of streptococci causes the condition; another, that certain streptococci produce a specific toxin; still another, that strepto-

Read at a meeting of the Pennsylvania Society of Dentistry for Children, March 15, 1948.

Member of the Dental Staff of Northeastern Hospital, Philadelphia.

1. Nelson, W. E. (edited by), *Mitchell-Nelson Textbook of Pediatrics*, ed. 4. Philadelphia: W. B. Saunders Co., 1945, p. 847.

cocci cause local areas of infection in which an allergic reaction occurs in sensitive persons. According to Kuttner,[2] most English and American investigators agree that both the initial attack and the subsequent relapses follow in the wake of infections of the upper respiratory tract caused by group A beta hemolytic streptococci or occur as complications of scarlet fever. According to Kuttner, the observations leading to this theory have been amply confirmed by the high incidence of acute rheumatic fever following outbreaks of streptococci pharyngitis and of scarlet fever among the armed forces during World War II.

In private practice in Philadelphia it has been observed that many patients with rampant dental caries have had rheumatic fever, and a survey was made to see whether the relation was accidental or whether rampant dental caries and heavy mucin deposits can be classified as symptoms or sequelae of the disease.

Some light may be thrown on the possible relation between rheumatic fever and caries by a review of past observations. Basically, according to Graber,[3] there are three major groups of theories as to the cause of dental caries. The first group comprises theories that assume local and environmental conditions to be the major factors. The second group includes theories based on systemic conditions, such as heredity, endocrine secretions, blood relations, nutrition and pregnancy. The third group is composed of theories that combine the factors suggested by the other two.

Concerning the actual mechanism of caries, the censensus seems to approve the bacterial theory, maintaining that caries occurs when the enamel is penetrated by acid-producing bacteria.

Thoma[4] reviewed the literature on dental caries, setting forth the bacteriologic observations of other workers. Clarke in 1924 and Maclean in 1927 observed that Bacillus acidophilus attacks the enamel, whereas Streptococcus mutans is present in the dentin. Schlirf in 1926 associated rapid caries with B. acidophilus and slow, low grade caries with an acid-producing streptococcus. Tunnicliff and Hammond in 1938 described a new acid-producing streptococcus isolated from carious dentin. Anderson and Rettger in 1937 stated that streptococci must be recognized as etiologic agents because of their frequent and abundant occurrence in the mouth and their decidedly acidogenic nature. Alpha streptococci are found at the apex of the tooth in dental abscesses. Since it is commonly accepted that rheumatic fever is due to the activity of certain streptococci, especially in the upper respiratory tract, further investigations might show a more direct correlation between the rheumatic condition and the lesions in and about the teeth.

Method of Examination

A review of the literature brought forth several surveys presenting DMF rates for average children of various ages.

A report of the Bureau of Dental Health of New Jersey in 1944 disclosed that the number of decayed, missing or filled permanent teeth per child between the ages of 7 and 9 was 2.3; between 10 and 12, 4.4, and between 13 and 15, 8. Therefore, the average number of decayed, missing or filled teeth per child between the ages of 7 and 15 was 4.9.

In this specific survey, however, more than the DMF rate was desired. The study was concerned with the number of carious penetrations of enamel that required separate fillings, not only in the permanent teeth but in all teeth present in the mouth at the time of examination. In other words, what was desired was the actual number of cavities in both tempo-

2. Kuttner, A. G., in *Mitchell-Nelson Textbook of Pediatrics* (see footnote 1), p. 848.

3. Graber, T. M., Local Factors in Dental Caries: A Critical Review of the Literature. *J.A.D.A.* 35:92 (July 15) 1947.

4. Thoma, K. H., Oral Pathology, ed. 2. St. Louis: The C. V. Mosby Company, 1944, p. 541.

Table 1.—Age distribution of the 100 normal children and 100 children with rheumatic fever in the study

Age	No. of normal	No. of rheumatic
4	4	3
5	5	4
6	4	2
7	7	11
8	18	10
9	14	13
10	18	8
11	12	8
12	7	15
13	2	9
14	—	7
15	2	7
16	5	2
17	2	1
Total	100	100

Average age of normal children, 9.5; average age of rheumatic fever children, 10.3.

rary and permanent teeth. The fact that one tooth may have more than one cavity was borne in mind throughout.

It was necessary also to determine the number of extractions, both those previously done and those that became necessary during the study. In addition, the number of restorations in each mouth had to be noted, since restorations meant previous decay. In order not to confuse the resultant with the standard DMF rating, which includes only permanent teeth, a new index, the CRE index, was devised. *C* indicates the number of carious penetrations of the enamel; *R*, the number of restorations, and *E*, the number of teeth previously extracted because of caries plus the number of extractions necessary.

Since no available literature supplied this information with regard to normal average children, a control group was necessary. The survey included, therefore, not only 100 children with rheumatic fever but 100 average normal children.

The children with rheumatic fever were studied at outpatient and rheumatic fever clinics of the following hospitals in Philadelphia: Children's Heart, Philadelphia General, Hahnemann, Jewish, Northeastern and St. Christopher's. The normal children were studied with the cooperation of the pedodontics department at Temple University School of Dentistry.

Ninety per cent of the children, both rheumatic and normal, came from families with incomes below average. Their ages ranged between 4 and 17, and both boys and girls were included.

In order to rule out any great discrepancy in age between the normal and the rheumatic children, a table was made, and average ages were computed for the two groups (Table 1). For the normal children this age was 9.5 years; for the children with rheumatic fever, 10.3 years. The difference, only about 0.8 of a year, may be disregarded in analyses of the CRE indexes.

Results

Of the 100 children with rheumatic fever, 33 per cent had mild nonsuppurative gingivitis. Of the 100 normal children, only 4 per cent had gingivitis (Fig. 1).

The type of deposits about the necks and in the occlusal crevices of the teeth was recorded. It was found that 6 per cent of the rheumatic children had green stain as compared with 27 per cent of the

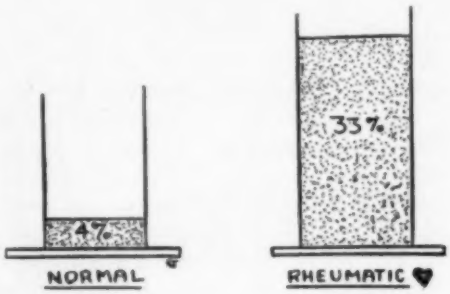

Fig. 1.—Incidence of gingivitis in children with rheumatic fever as compared with normal children

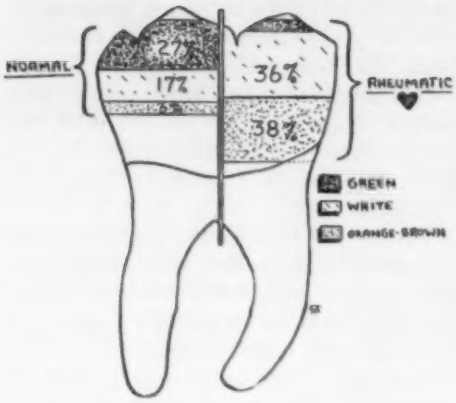

Fig. 2.—Dental deposits in normal children and in children with rheumatic fever

normal children. Soft white deposits and white decalcified areas were found in 36 per cent of the rheumatic children and 17 per cent of the normal children. Peculiar orange-brown discoloration and deposits were observed in 38 per cent of the rheumatic children but in only 6 per cent of the normal group (Fig. 2).

In computing the CRE index for each group, it was found that the 100 rheumatic children had a total of 234 fillings as compared with 307 for the normal children. The rheumatic children had almost twice as many cavities as the normal ones, the exact figures being 822 for the former group and 415 for the latter. One hundred and twenty-nine extractions were necessary for the rheumatic children; only 47 were required by the normal children. The number of previous extractions traceable to caries was 132 for the rheumatic group as compared with 44 for the normal group. The cumulative CRE index for the rheumatic children was 1,317, giving an average CRE index of 13.2, as compared with a cumulative CRE index of 813 for the normal children, or an average index of 8.1 (Table 2 and Fig. 3).

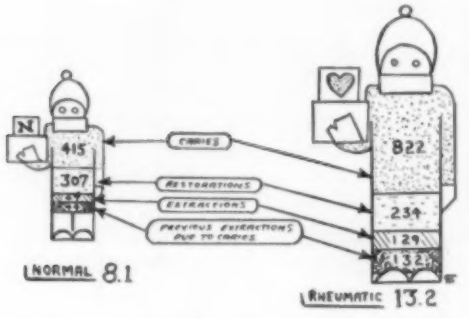

Fig. 3.—CRE index (see text) for normal children and children with rheumatic fever

Comment

Records were made of observations on (1) the condition of the gingivae, (2) the type and nature of deposits around the necks of the teeth and (3) the incidence of dental caries, or the CRE index.

About a third of the rheumatic fever patients had gingivitis, an incidence eight times as great as that among the normal children.

It is interesting to note that, whereas green stains were observed in 27 per cent of the normal children, in rheumatic children this dropped to 6 per cent. The likelihood is that, in the presence of rheumatic fever, the normal flora of the mouth is thrown out of balance. The activity of the chromogenic bacteria that form the green stains on Nasmyth's membrane is probably inhibited by the virulence and abundance of the streptococci.

The type of deposits about the necks of the teeth and in the crevices is important because it can be taken as an index of carious activity. The white deposits and decalcified areas were twice as prevalent in the rheumatic children as in the normal ones, and the orange-brown discolorations and deposits were six times as prevalent in the rheumatic children. This orange-brown deposit occurs not only around the necks of the teeth but also in the occlusal crevices. When removed, it recurs within 24 hours in spite of good oral hygiene. It can be removed with a

Table 2.—Dental conditions in 100 normal children and 100 children with rheumatic fever (see Table 1 for ages)

Group	Condition of gingivae	Deposits	Teeth present	Restorations	Cavities*	Extractions necessary	Previous extractions	CRE index	Major childhood diseases
Normal	nonsuppurative gingivitis, 4	green, 27 orange, 6 white, 17	2,314	307	415	47	44	8.1	Scarlet fever, measles, typhoid fever, chicken pox
Rheumatic	nonsuppurative gingivitis, 33	green, 6 orange, 38 white, 36	2,350	234	822	129	132	13.2	Rheumatic fever

*Full crown destruction counted as one cavity.

scaler or with a rubber cup and a little prophylaxis paste, or it can be simply scraped off with a soft balsa wood point. It will, however, recur within 24 hours.

Analysis disclosed the startling fact that the rheumatic fever patients as a group had a CRE index 62.9 per cent higher than that of the normal children. With allowance for the slight difference in age between the two groups, it seems safe to say that in this survey the rheumatic children had 60 per cent more caries than the normal children.

More restorations had been furnished for the normal children than for those with rheumatic fever, but every other figure in the CRE index was higher for the rheumatic subjects. The greater number of restorations in normal children was probably due to the fact that these children were not bedridden and were, therefore, able to visit the dentist to be treated. Some of the rheumatic children were bedridden intermittently for six to eight months at a time. However, the over-all picture of the CRE index is the important factor, and this showed 60 per cent more caries in the rheumatic than in the normal children.

Dental Treatment

The dental treatment of children with rheumatic fever must be complete and thorough even during the long recovery period. Apparently, decay takes place much more rapidly in the presence of this disease. This, of course, does not mean that the speedy decay is due only to rheumatic fever; increase in severity of caries may accompany any debilitating disease. To determine the actual influence of rheumatic fever in this direction would call for a separate study or series of studies.

It is obvious that to delay dental treatment for six months or more until he is well enough to visit the office would contribute toward making a dental cripple of the patient. Furthermore, if one is to subscribe to the accepted theory concerning the cause of rheumatic fever, namely, that streptococci play the predominant role, it is extremely important that carious areas, all of which contain streptococci, be eradicated.

The problem of dental care for rheumatic fever patients should be approached on the following basis:

1. Immediately upon noticing heavy white deposits of mucin-like material or light orange-brown mucin plaques at the necks of the teeth and in the occlusal crevices, together with a high CRE index, the dentist should advise a thorough medical check-up with emphasis on rheumatic fever as a possible diagnosis.

2. When these danger signals are present, whether or not the medical examination discloses rheumatic fever, it is extremely important that complete oral cleanliness be observed and that any necessary dental restorations be made. The mucin-like deposits can be removed in the usual manner and the patient should be instructed to keep the teeth free of these deposits by careful oral hygiene.

3. If rheumatic fever has already struck and the patient is confined to bed, only emergency dental attention should be given until after the severe cardiac symptoms subside. Then, as soon as possible, all carious teeth should be excavated in the usual manner and restored by the simplest and most convenient method until the child is well enough to sit in the dental chair.

4. When, in the opinion of the physician, the child is strong enough, the infected teeth and broken-down roots should be removed one or two at a time. Procaine hydrochloride without epinephrine is the anesthetic of choice.

5. Penicillin, 300,000 units in oil, should be administered as a prophylactic measure before extraction. Otherwise, acute bacterial endocarditis may result from the transient bacteremia caused by the sudden dissemination of great numbers of streptococci into the blood stream. If desired, the penicillin may be administered by mouth (50,000 or 100,000 unit buffered tablets to a total of 300,000 to 600,000 units in 24 hours).

6. Large doses of vitamin C (300 mg. a day) should be considered as an aid in controlling gingivitis. After three or four weeks the doses may be gradually decreased if the natural sources of this vitamin seem adequate.

7. The child should be re-examined every three months with bitewing roentgenograms, as his susceptibility to caries will continue to be high. Topical fluorine therapy may be employed as a preventive measure.

Conclusions

1. There is reason to suspect that in some cases a peculiar orange-brown mucin-like deposit around the necks of the teeth and on the occlusal surfaces is a symptom of rheumatic fever.

2. In 33 per cent of the rheumatic fever patients a nonsuppurative gingivitis is present.

3. The CRE index for normal children between the ages of 4 and 17 is 8.1. The CRE index for children with rheumatic fever, of the same age and socioeconomic level, is 13.2. This represents approximately 60 per cent more dental caries in rheumatic fever patients than in normal children. This seems to indicate a definite relation between the streptococci associated with rheumatic fever and the greatly increased amount of streptococcal activity in the teeth as evidenced by caries.

4. In the preliminary study reported here, rampant dental caries was present in a sufficient number of cases of rheumatic fever to warrant the inclusion of caries with other minor symptoms of this disease, such as epistaxis, nausea, loss of weight and fever. Individually, these symptoms are not diagnostic, but in combination they aid in diagnosis.—*3037 North Broad Street.*

VALUE OF HOT OIL AS A MEANS OF DISINFECTING INSTRUMENTS

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LAHEY and Mason,[1] Loretz,[2] Foster, LeMay and Johnstone,[3] Parke[4] and Harvey, LeMay and Shuttleworth,[5] stated that hot oil is superior to other means of disinfecting dental handpieces and delicate metallic instruments, in that it prolongs the efficiency of the instruments.

Differences of opinion exist regarding the time required and the temperature at which oil should be maintained for disinfection and sterilization of instruments. Appleton[6,7] concluded that ordinary mineral or paraffin oil at 130 C. for five minutes will suffice if only asporogenic bacteria are considered; but if one wishes to destroy bacterial spores, 185 C. for five minutes, 175 C. for 10 minutes or 165 C. for 15 minutes should be used. Foster, LeMay and Johnstone[3] emphasized the need for at least 30 minutes at 150 C. for sporicidal effect. Loretz[2] has suggested a germicidal oil which is reported to be effective within 15 minutes at 100 C. in sterilizing handpieces contaminated with a spore-forming bacterium, which resisted oil at 100 C. for 15 minutes.

Harvey, LeMay and Shuttleworth[5] used two mixtures: (1) AC. 10 (surgical), consisting of 95 per cent of a light petroleum neutral oil (containing approximately 64 per cent paraffins, 31 per cent naphthenes, 5 per cent aromatics) and 5 per cent of a complex of metallic petroleum sulphonates of molecular weights between 400 and 500 and average composition of the order $C_{24}H_{37}SO_3X$-$C_{30}H_{50}SO_3X$, and (2) AC. 10 soda solution, a mixture of 2 Gm. of sodium carbonate decahydrate and 2 cc. of AC. 10 (surgical) in enough water to make 100 cc. The suggested technic was to soak the handpieces in AC. 10 (surgical), boil and allow to dry overnight, and after each use boil in AC. 10 soda solution. Five minutes' boiling in AC. 10 soda solution was considered effective in destroying vegetable cells, but more than 30 minutes was necessary to be absolutely certain of complete destruction of spores. In reference to the time required to kill spores, Harvey, LeMay and Shuttleworth[5] state:

> Although it has been reported by Garrod and in The Brit. Med. J., 1941, that 5 minutes boiling in 2% sodium carbonate solution kills all organisms including spores, yet it would appear that for instruments the larger the mass of metal and the greater the complexity of internal mechanisms, the longer would be the time needed for sterilization.

Parke[8] reported that relative sterility

This paper has been authorized for publication by the Council on Dental Therapeutics. The opinions expressed are those of the author and do not necessarily reflect the opinion of the Council.

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1. Lahey, F. H., and Mason, R. L., Oil Sterilization of Edged Instruments. *Surg. Gynec. & Obst.* 41:256 (Aug.) 1925.

2. Loretz, M. M., A Simple Method of Sterilising, Cleaning, and Lubricating Handpieces. *Brit. D. J.* 76:40 (Jan. 21) 1944.

3. Foster, J.; LeMay, C. H., and Johnstone, K. I., The Corrosion of Sharp-edged Ophthalmic Instruments. *Proc. Roy. Soc. Med.* 38:465 (June) 1945.

4. Parke, G. L., Sterilization Effectiveness of a Hot Oil Bath. *J. D. Res.* 25:89 (April) 1946.

5. Harvey, Warren; LeMay, C. H., and Shuttleworth, C. W., The Sterilization of Dental Handpieces. *Proc. Roy. Soc. Med.* 40:507 (July) 1947.

6. Appleton, J. L., Jr., The Sterilization of the Handpiece. *D. Cosmos* 66:861 (Aug.) 1924.

7. Appleton, J. L. T., *Bacterial Infection*, ed. 3. Philadelphia: Lea and Febiger, 1944.

8. Parke, G. L., Sterilization and Lubrication of Dental Handpieces. *U. S. Nav. M. Bull.* 45:955 (Nov.) 1945.

could be obtained if handpieces were cleansed in a mixture of xylol, carbon tetrachloride and liquid petrolatum for one minute and then subjected to oil at 149 C. for five minutes. The words "relative sterility" were used to denote lack of destruction of spores. Later Parke[4] concluded that complete immersion of dental handpieces in liquid petrolatum for a period of two minutes at a temperature of 121.1 C. produced a degree of sterilization equal to that of boiling water. In the latter report the author recognized the possibility of greater resistance of dry organisms but felt that since the sterilization of handpieces in hot oil directly after use was recommended, so-called dry organisms were not a major factor. In reference to spores, Parke[4] simply stated:

> Spore forming organisms were considered and tested in conjunction with other bacteriological tests. It was determined that oil at 250° F. was no more effective than boiling water (20 min.) in destroying spores. [250 F. is 121.1 C.]

No information is given relative to the species of spore formers tested, nor the conditions under which the cultures were grown.

Sterilization of syringes by drawing hot oil, at 120 to 130 C., back and forth in the syringe was suggested by The Medical Research Council[9] of England. Later the same Medical Research Council[10] warned against the above method for sterilizing syringes and mentioned the fact that even vegetative organisms dried on the glass were not uniformly destroyed. Rogers[11] suggested that oil at 130 to 135 C. pumped back and forth in syringes three or four times might be used for disinfection if spores were not considered.

In order to evaluate the preceding experiments, as well as those reported later in this paper, it is necessary to consider some of the following basic factors regarding the effect of boiling water and other methods of killing bacterial spores.

There is often a significant variation in the resistance of spores to agents of destruction, even among spores of the same strain. Age of the culture, temperature of incubation, type of medium and moisture content of spores influence their resistance. For an appreciation of the preceding statement the reader is referred to Magoon,[12] Esty,[13] McCulloch[14] and Knaysi.[15]

Heat has varying effects on the subsequent germination of spores, according to McCulloch,[14] Topley and Wilson,[16] and Knaysi.[15] Heat at 80 C. for 10 minutes may hasten the germination of some spores. On the other hand, heat, especially if intense, often greatly delays subsequent germination of spores.

The number of spores may influence the apparent sporicidal efficiency of various agents. Esty[13] said that if other factors are equal, the larger the number the longer the time necessary to destroy spores. He also said that any statement on heat resistance of an organism must of necessity apply to the strains tested, since it is possible that a study of a larger number of strains might give entirely different results.

Unless the variation in resistance of bacterial spores is realized, exaggerated claims for sterilizing properties of an agent may be assumed. For example, spores of most strains of Bacillus anthracis and Clostridium welchii are de-

9. Medical Research Council, *The Prevention of "Hospital Infection" of Wounds*. War Memorandum No. 6. London: His Majesty's Stationery Office, 1942.

10. Medical Research Council. *The Sterilization, Use and Care of Syringes*. War Memorandum No. 15. London: His Majesty's Stationery Office, 1945.

11. Rogers, K. B., Oil Sterilisation of Syringes. *Lancet* 2:87 (July 20) 1946.

12. Magoon, C. A., Studies Upon Bacterial Spores. I. Thermal Resistance as Affected by Age and Environment. *J. Bact.* 11:253 (April) 1926.

13. Jordan, E. O., and Falk, I. S., *The Newer Knowledge of Bacteriology and Immunology* (Esty, J. R., Determination of Thermal Death-Time, chap. 21). Chicago: The University of Chicago Press, 1928.

14. McCulloch, E. C., *Disinfection and Sterilization*, ed. 2. Philadelphia: Lea and Febiger, 1945.

15. Knaysi, Georges, The Endospore of Bacteria. *Bact. Rev.* 12:19 (Jan.) 1948.

16. Topley, W. W. C., and Wilson, G. S., *Principles of Bacteriology and Immunity*, ed. 3. Baltimore: Williams and Wilkins Co., 1946, vol. 1, chap. 5.

Table 1.—Comparative germicidal effect of hot oil and boiling water, as tested with cross cut fissure burs contaminated with bacterial spores

Organism*	Number of minutes necessary for destruction of all spores on 5 contaminated burs†			
	Water 99 to 100 C.	Oil 121 to 125 C.	Oil 148 to 154 C.	Oil 160 C.
B. anthracis (L)‡	5	more than 60	10	5
B. anthracis (W)	5	more than 60	20	5
B. subtilis (W)	5	30 to 60	20	5
B. subtilis (L)	15	more than 60	30	5
B. subtilis (X)	20	more than 60	30 to 60	10

*Controls, made by dipping contaminated burs in hot oil or boiling water and culturing immediately, were uniformly positive.

†Time intervals included 5, 10, 15, 20, 30 and 60 minutes.

‡Key to letters: (L) from University of Louisville stock cultures; (W) from Washington University stock cultures; (X) recent strain of B. subtilis type.

stroyed by water at 100 C. within 10 to 15 minutes. Spores of Clostridium tetani may resist boiling water for 90 minutes or longer, but on the average 20 to 30 minutes in 100 C. water is lethal to them.

Experiments were designed to test the bactericidal efficiency of hot liquid petrolatum (white mineral oil) and to compare its sporicidal efficiency with that of boiling water. Cross cut fissure burs, as used in right angle handpieces, were used as contaminated test objects. The short burs were chosen for convenience and ease in handling, and also to allow for the culturing of the entire heated object.

Experiments

Method of Contamination.—Burs previously sterilized in hot air oven (160 C. for two hours) were contaminated by thoroughly wetting them with either tap water suspensions of bacterial spores or paraffin-stimulated saliva suspensions of Staphylococcus aureus. The contaminated burs were placed in sterile petri dishes and left to dry for 18 to 24 hours if spores were used, and for intervals up to six hours for staphylococcal suspensions.

Suspensions Used for Contaminations.—Colonies from a 6 to 7 day old nutrient agar slant culture of an aerobic spore (as specified in Table 1) were suspended in sterile tap water until a turbidity comparable to a No. 1 barium sulfate turbidity standard was obtained. Samples of each suspension were heated in sealed tubes for 10 minutes at 80 C. and nutrient agar plate counts were made. According to the technic described, it was estimated that the various suspensions contained from four to ten million viable spores per cubic centimeter.

The staphylococcal suspensions were made by centrifuging 5 cc. of an 18 to 24 hour nutrient broth culture of Staphylococcus aureus and resuspending the sediment in 5 cc. of fresh paraffin-stimulated saliva. Nutrient agar plate counts indicated that the suspensions contained from fifty to a hundred million Staphylococcus aureus colonies per cubic centimeter.

Determination of Bactericidal Action.—The temperature and time of exposure to liquid petrolatum and water are given in Tables 1, 2 and 3.

After the designated period of heating

Table 2.—Germicidal effect of water at various temperatures, as tested with cross cut fissure burs contaminated with spores of aerobic organism of B. subtilis type

Temperature	Results of cultures made after:					
	10 minutes		15 minutes		20 minutes	
	Number of tests	Number positive	Number of tests	Number positive	Number of tests	Number positive
90 C.	10	10	10	10	..	..
95 to 96 C.	10	10	10	9	5	4
99 to 100 C.	10	10	10	1	10	0

the burs were transferred, by means of sterile pliers, to separate tubes containing 10 to 12 cc. of sterile Difco's N.I.H. thioglycollate broth. The cultures were incubated at 37 C. and observed daily for 21 days if testing for spores, and for 7 days in case of saliva suspensions. The positive cultures were studied both culturally and microscopically in order to rule out false positive results due to contamination.

Results.—Data recorded in Table 1 indicate that:

1. Many spores killed by five minutes of boiling water (100 C.) resist liquid petrolatum at a temperature of 121 to 125 C. for more than an hour and liquid petrolatum at 148 to 154 C. for 10 to 20 minutes.

2. Thirty to 60 minutes' exposure to liquid petrolatum at 148 to 154 C. may be required to kill spores destroyed by boiling water (100 C.) within 15 to 20 minutes.

3. A temperature of 160 C. is necessary if hot liquid petrolatum is to be considered as effective as boiling water (100 C.) in destroying spores. However, evidence is not sufficient to warrant the conclusion that either offers the margin of safety that is afforded by steam under pressure.

The significantly greater sporicidal efficiency of liquid petrolatum at 160 C. over liquid petrolatum at lower temperatures is in agreement with Oag's[17]

17. Oag., R. K., The Resistance of Bacterial Spores to Dry Heat. *J. Path. & Bact.* 51:137 (July) 1940.

Table 3.—Comparative germicidal effect of hot oil and boiling water, as tested with cross cut fissure burs contaminated with a suspension of Staphylococcus aureus in saliva

Interval of time burs allowed to dry	Results of cultures made after exposure to:							
	Water 5 minutes 99 to 100 C.		Oil 5 minutes 121 to 125 C.		Oil 10 minutes 121 to 125 C.		Oil 5 minutes 148 to 154 C.	
	Number of tests	Number positive	Number of tests	Number positive*	Number of tests	Number positive	Number of tests	Number positive
Less than 1 minute	..	..	60	0	..	..	..	..
1 to 2 hours	..	..	60	1	..	..	..	..
4 to 6 hours	30	0	120	6	30	0	30	0

Controls, made by dipping contaminated burs in hot oil and culturing immediately, were uniformly positive for staphylococci, streptococci, gram-positive rods and gram-negative rods.

*Contained only Staphylococcus aureus.

observations on the effect of dry heat on spores.

Results listed in Table 2 indicate the need for maintaining boiling water at 100 C. for maximum germicidal efficiency. Since boiling water at altitudes higher than sea level may not reach a temperature of 100 C., it is necessary for the temperature to be recorded if boiling water is used as a means of comparing sporicidal effects of different agents.

Approximate boiling temperatures for water at various altitudes are given in Table 4. Table 5 shows the approximate altitudes above sea level of various points in the United States. The barometric pressure at a given point in the United States may vary enough to produce a range of about two Centigrade degrees in the boiling point of water.

Results in Table 3 suggest that liquid petrolatum at 121 to 125 C. for five minutes is efficient in destroying Staphylococcus aureus and the readily cultivable bacteria found in saliva if there is no time lapse after contamination. Positive cultures obtained from dried burs heated to 121 to 125 C. for 5 minutes suggests the need for higher temperatures or more prolonged heating if liquid petrolatum is to be used for the routine disinfection of dental instruments. Results listed in Table 3 indicate that oil at 121 to 125 C. for 10 to 15 minutes or 148 to 154 C. for 5 to 10 minutes offers a margin of safety in disinfecting previously cleansed handpieces. These suggested times and temperatures would not assure destruction of spores, but as mentioned by Appleton:[6]

> It seems most unlikely that a few isolated endospores of organisms, whose natural habitat is not the mouth, implanted merely on the surface, as would be the case with handpiece contamination, would remain long enough to germinate and do damage if their germination was delayed for even a few days.

Table 4

Altitude (feet)	Standard barometric pressure* (mm.)	Estimated boiling point of water (degrees Centigrade)
Sea level	760	100.0
1,000	733	99.0
3,000	681	97.0
5,000	632	94.9
7,000	586	92.9
9,000	543	90.8
11,000	503	88.8
13,000	465	86.8
15,000	429	84.7

*Haynes, B. C., *Meteorology for Pilots*, Civil Aeronautics Bulletin No. 25. Washington, D. C.: U. S. Department of Commerce, Civil Aeronautics Administration, Jan. 1943, p. 28.

Table 5

Location	Altitude* (feet)
El Paso, Texas	3,762
Salt Lake City	4,255
Denver, Colo.	5,280
Cheyenne, Wyo.	6,058
Santa Fe, N. M.	7,000
Leadville, Colo.	10,200
Mt. Whitney (Calif.)	14,495

**Encyclopaedia Britannica*. Chicago: Encyclopaedia Britannica, Inc., 1942.

Conclusions

1. White mineral oil at 148 to 154 C. for 5 to 10 minutes or at 121 to 125 C. for 10 to 15 minutes is a practical and efficient means of disinfecting previously cleansed dental handpieces and other instruments where bacterial spores are not considered a hazard.

2. A temperature of 160 C. is necessary if white mineral oil is to be considered the equal of boiling water (100 C.) in destroying bacterial spores within 20 minutes.

3. Although both white mineral oil at 160 C. and boiling water (100 C.) for 20 minutes will kill many spores, available evidence indicates that they are not as efficient as autoclaving (steam under pressure) or exposure to air at 160 C. for one or two hours.

THE HOSPITAL AS A TRAINING GROUND FOR THE DENTAL SPECIALTIES: A DIGEST

Leo Stern, D.D.S., New York

DENTISTRY, the earliest formal specialty in medicine, has advanced from a limited restorative art to a complex service concerned with the whole oral cavity. Subdivisions of special practice have developed, which deserve an equal status with medical specialties. It is desirable, however, to preserve the identity of these subdivisions as dental.

The organized profession, accordingly, must win public confidence by setting high standards of qualification and developing training facilities for specialists. To preserve proper balance, of course, general practice must remain the backbone of dentistry. Specialization should be encouraged only as it accelerates progress in general as well as in special practice. This it can certainly do if rightly approached.

The first thing needed is machinery for evaluating qualifications, certifying specialists and convincing the public that this certification is bona fide evidence of outstanding skill. The second need is for the development of systematic and flexible training facilities for specialists.

There is an obvious discrepancy between the formal training of the general surgeon and that of the oral surgeon. The latter is at a disadvantage in hospital work, since he is subject to comparison with general surgeons who have had systematic training in all hospital procedures. Until opportunity for equal training and experience is available to the dental specialist, there can be no true parity here. Entirely aside from the question of public esteem, the work of the periodontist, the orthodontist and other oral specialists can reach a far higher level with such a background.

This, of course, involves a basic change in attitude toward graduate experience. Dental schools and the dentist's office do not afford adequate proving grounds for new methods and skills, and graduate training in the care of hospitalized patients must be made available. By no other means can the dental specialist become expert in detecting and eradicating oral disease in its earliest stages. Too many fail in this responsibility and so perpetuate the physician's condescension toward the dentist as a scientific partner. Internship and graduate work comprehensive enough to close the acknowledged gap between medical and dental training should require no more than five years.

Graduate study should not be confined to the specialties. Dentistry in general needs the hospital as a training ground. Hospital teaching services, with experienced clinicians as instructors, are an important part of the learner's experience.

Dental internship is the logical beginning of such experience. Only the dental intern is in a position to begin his graduate training under conditions identical with those offered the medical intern. Intimate cooperation with physicians in

This article is a digest of a paper read in a symposium at the twenty-third annual Greater New York Dental Meeting, New York, December 10, 1947 and published in the *New York Journal of Dentistry*, April 1948.

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all fields will create and maintain mutual respect. The dental intern learns the language and "feel" of medicine. He works against a background of hospital care that enables him to grasp the wider implications of oral disease. Each problem, each consultation, reveals new facets of interdependence between medical and dental service. An ideal internship should include work in collaboration with one or more specialists in every field of related medicine:

1. With the internist.—Focal infection; complications of dental manipulation and their prevention; chemotherapy.

2. With the cardiologist.—Dental procedure for patients with hypertension and cardiac insufficiency.

3. With the hematologist.—Identification of blood dyscrasias by their oral signs; management of patients with disease or abnormality of the hematopoietic system.

4. With the nutritionist.—Differential recognition of vitamin deficiencies and uncontrolled diabetes; improvement of masticatory function.

5. With the endocrinologist.—Correlation of oral lesions of Addison's disease, hyperpituitarism and hyperparathyroidism.

6. With the pediatrician.—Early oral diagnosis of the exanthemas; management of patients with rheumatic fever, congenital cardiac lesions and pyogenic infections.

7. With the neurologist and the neurosurgeon.—Joint management of neuralgia or dysfunction of the fifth, seventh and ninth cranial nerves, including localization of involved segments and differential diagnosis of dental pain.

8. With the psychiatrist.—Psychosomatic dentistry; detection of neuroses associated with dental disease or treatment.

9. With the obstetrician.—Antepartum dental care; congenital oral malformations; genetics.

10. With the surgeon.—Preoperative and postoperative management and supportive treatment; operating room procedures; asepsis; diagnosis and treatment of tumors and infections; preoperative prophylaxis.

11. With the orthopedist.—New principles in management of fractures; problems of the temporomandibular joint.

12. With the rhinolaryngologist.—Disease of the maxillary sinus; oral perforation of the sinus; cleft palate; palatine tumors; calculi; fractures.

13. With the otologist.—Reduced intermaxillary distance and its relation to pressure on the middle ear; referred otalgia.

14. With the ophthalmologist.—Ocular involvement in dental infection.

15. With the anesthetist.—Basal anesthesia; preanesthetic medication; technics of administration, including practical experience.

16. With the pathologist.—Differential interpretation of oral and general histopathology; postmortem study of the mouth and jaws.

17. With the bacteriologist.—Special smear and culture methods; reaction of oral organisms to the sulfonamides and penicillin.

18. With the radiotherapist.—Selective allocation of procedures for oral tumor; radiosensitiveness of tumors; radioisotope methods; construction of screens for radiotherapy.

19. With the dermatologist.—Demonstration of oral analogues of the dermatoses and of early oral manifestations of syphilis, tuberculosis and cancer.

Even this is but a partial catalog of the possibilities, which are too many to list. A year of such experience will make the dental intern as mature a clinician as is his medical colleague. It will emphasize to the physician the importance of dentistry, demonstrate to the dentist the limitations of his work and encourage reciprocal consultations between the two.

Internship alone, however, will not train a specialist. Specialization requires at least another full year in residence,

followed by continuous hospital service. The residency is intrinsically an additional year of internship, devoted chiefly to actual practice in a specialty. The dental staff, therefore, must yield a good deal of operative work to their juniors.

This is the general pattern of a minimum program for special dental training. Until it has been established, dental specialists will continue to be regarded—perhaps properly—as little more than artisans who have gained some technical facility in a very small field. There is nothing visionary about the plan. The organized dental profession, if mobilized promptly and intelligently, can meet the challenge with entire success.—*745 Fifth Avenue.*

THE DENTIST IN THE HOSPITAL TEAM:

SCIENTIFIC OPPORTUNITIES IN HOSPITAL DENTISTRY

E. M. Bluestone, M.D., New York

Modern concepts of medical care now require the return of the specialties (including dentistry) to the orbit of general medicine, from which they had wandered in an intensive but fruitless search for the scientific ideal. This is due, in some measure, to the influence of the social sciences on the development of technology. In recent years, socially minded people have been more and more concerned about medical and dental practices in relation to medical care.

Among other tangible things, the microtome and the microscope indirectly stimulated an awareness of social and economic factors in health and disease which cannot possibly be analyzed by the sole application of instruments of precision. These instruments, in their limited mechanical way, focus the attention of the observer on a segmented microcosm, but human beings cannot be taken apart in such a way that each part can be studied exclusively without regard for the other parts. The best of logicians must get some sentiment into his soul if he is to reach the highest point which reason can achieve. The emotions play a controlling part in the natural history of disease. This is, indeed, the essence of psychosomatic medicine and the principle underlying the group management of the sick. Despite its multiplying complexities, time has given us another weapon in our struggle for survival—the ability to view the patient comprehensively so that we can distribute medical care in better and more productive balance.

The reunion of the special with the general in medical practice is bound to extend to the specialty of oral medicine (dentistry) even if the financial cost seems relatively high. At this stage in the history of medicine, it is a matter of putting into practice what already has been agreed to in principle. There are major obstacles to overcome and these have to do with human factors as well as with economics, but the medical scientist has arrived at a point in time where

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Director, Montefiore Hospital, New York.

he no longer can stultify himself by excluding the oral specialist from his diagnostic and therapeutic plans for the whole patient.

Group Practice

The advent of the concept of group medical practice opens the door for the oral specialist who is on the alert for such opportunities. It is to this group concept, in more primitive form, that he owes his presence in the hospital and, as it reaches out in ever widening circles, he will be included in the group. It is important for the oral specialist to meet the physician half way by a planned process of professional association and to become the productive and energetic participant that the practice of group medicine now requires.

This is a plea to the oral specialist to support and encourage the plans afoot in our larger communities for the establishment of group practice units, preferably organized within hospitals on a voluntary, group-insurance self-help basis. These units point the way to his salvation as a professional man and man of science. An association of this kind will return handsome dividends to physician, surgeon and specialist, as well as to the patient. This is the time for the oral specialist to assert himself and assure his place in the sun.

My second plea deals with the education of the physician and the oral specialist, before and after assuming practice, in the essential unity of their combined goal and in ways and means of reaching it. A gulf still separates many physicians from oral specialists, but it can be bridged from both sides. No man practicing the oral sciences need accept the status of second-rate citizen in the professions. If he does he has only himself to blame. I have never seen an oral specialist denied when he approached the physician frankly and helpfully. Nor have I seen a physician with a similar approach denied. One must have interest, understanding and enthusiasm for the possibilities of joint effort.

No scientist can bury his head in the sand by locking himself up in his office, in the highly differentiated and exacting world in which we live. He must find out, as a matter of daily routine, how others live. Let me illustrate with the dental internship in the hospital. No educational plan for dental apprenticeship of this kind can possibly be complete which does not include compulsory attendance at clinical and pathologic conferences. The purpose of this requirement is not only to keep the participant, whether physician or oral specialist, informed but also to stimulate him to invention and discovery in diagnosis and therapy. The scientist has the best of reasons for choosing democracy as his way of life, for in this way he can increase the flow of new ideas in many directions. One "spark plug" can energize an entire group.

The last thing that an oral specialist should do is to narrow his sphere of usefulness to where, among other penalties, he will be disregarded by those whose collaboration is vital to his survival in a highly competitive society. If the oral specialist has a contribution to make in the field of public health and human welfare, he must, by his own efforts, help to widen his horizon and improve the climate for his creative talents. This is easier than many oral specialists seem to think.

Dentistry and Medicine

My third plea has to do with dental participation in medical as well as dental progress. In this revolutionary era of medical achievement great things are happening and will continue to happen. The laboratories are producing life-saving and life-prolonging devices at a more rapid rate than ever before. The oral specialist dare not remain on the wrong side of the laboratory threshold if

he wants the opportunity of contributing his share. He must enter boldly and see for himself what is transpiring and, at the same time, welcome the physician to his side as a matter of reciprocal courtesy.

Many opportunities await the oral specialist who is unwilling to be classified among the mechanics. In the field of experimental dentistry, with the knowledge immediately at our disposal, a number of advances should be possible at an early date while others await new leads. A little more attention should be given to the philosophy of dentistry in dental schools, with emphasis on the logic of invention and discovery and the methods which produce results. It requires a disciplined mind to advance the science of dentistry. The great men in your profession are those who have not only a scientific but a philosophic approach to their work. The dental student must be taught the why and how of the facts placed at his disposal.

The achievements of mechanical dentistry are beyond praise, but these are therapeutic rather than preventive and therefore comparatively less valuable in the long run. Moreover, the ideal dentist is the one who honestly believes and teaches that the loss of a tooth makes one a dental cripple for life. The mouth offers revelations which almost always have some vital clinical relationship to the body and the personality of the patient as a whole. It is of great value in diagnosis in the laboratory. If the dentist continues to isolate himself, he will have only his timidity and clannishness to blame for his limited participation.

Preventive Dentistry

Dentists will call this a counsel of perfection and will claim that they cannot survive, as professional men, on a fee-for-service basis in the practice of preventive dentistry. But I am speaking of the type of oral scientist who will move heaven and earth to save a tooth and never extract it for motives of personal profit. Moreover, no physician has yet been put out of business, so to speak, by those benefactions of modern public health and preventive medicine which have conquered so many of the infectious diseases. Nor has the practice of medicine suffered from the successes of chemotherapy and the antibiotics. Any professional vacuum that might be created in the practice of oral medicine would be filled as it was created.

Hospital Service

The new field of social medicine has much to offer to the specialty of oral science. The concept of one world is based on the unity of scientific as well as humanitarian effort. One does not have to be a prophet to sense the impending integration of all medical effort. The hospital has a unique opportunity in vitalizing this concept and, therefore, should be courted by the devoted physician and oral specialist alike. It is in the hospital and its outpatient department, as outstanding social agencies, that the modern oral specialist has the greatest opportunity to serve his profession as a whole. Here he mingles with fellow scientists on equal terms and learns an approach to his patient which is far more productive than anything he gains in the confines of his office, working by himself. The problem of the ambulatory patient is simple compared to the problem of the hospital patient.

Preliminary arrangements for a place of equality in the organizational plan of the hospital must be made, of course, and herein lies an opportunity for dental statesmanship of the first magnitude. Therefore, my fourth plea to the oral specialist is to ally himself with those social agencies which offer him communal as well as scientific opportunities. The physician-dentist, with or without an M.D. degree, holds a social rank worth striving for.

Dental Economics

My fifth plea deals with the economic aspects of dental practice, in the office and elsewhere. Much has been said lately about the high cost of dental service, as if it were the sort of specialized medical care which only the patient of means could, and perhaps should, enjoy. Because it is not always a matter of immediate urgency, such as a gangrenous appendix, or a medical condition characterized by a prostrating fever, dental service is postponed to the day of easier money, when luxuries, of which this would seem to be one, can be indulged in more freely. In this respect the community makes the mistake of following the pattern established by the individual, and leaves dentistry out in the cold. But oral medicine is not a fair-weather specialty. Nothing can be more fatal to dental progress than the acceptance of such a professional destiny since it is based on false premises. Would anyone accept as final the raw statement that dentistry is intended only for those who are wealthy and that its benefits must be denied to all others? If so, the cupidity of the dentist, as a partner to such an arrangement, would reflect unfavorably on his development as a man of science, since it would limit his opportunities. Obviously, what nature intended for one was intended for all who could benefit by its bounty. Just as the search for the better life for everyone proceeds with the advance of civilization, so the search for a more equitable distribution of dental service must proceed—and silence is the enemy of progress.

Social Responsibility

Urgency cannot be recognized as the only motivating force in medical or dental practice, for if it were we would be compelled to neglect our best opportunities. It is not enough to prevent death; we must be forever on the alert for ways of making life more endurable after we have succeeded in postponing death. The next chapter in the history of medicine will deal with medical care in long-term (chronic) illness, including dental illness, which differs from short-term (acute) illness largely in the matter of urgency. What I wish to stress is this: as a simple problem of prevention, if not cure, the causes of nonurgent signs and symptoms must be relieved at the outset and not made to wait until urgency supervenes. This is the essence of preventive medicine and dentistry. The fact that the oral specialist does not often deal with matters of life and death does not alter the argument—on the contrary, he does meet these problems frequently. He has part of the scientist's burden to carry and must be placed in a position on the team where he can pull his share of the load. Developing circumstances are in his favor. He must step forth with ideas and help find a way to distribute the hardship of the cost.

In our proved resourcefulness, we will find a way to make the patient comfortable, regardless of his economic status in life, while making the oral specialist who serves him comfortable. Ways and means of achieving this goal are opening up. I urge you to widen and exploit them to the full. This is the era of social security and self-help through group insurance. Nothing short of a mass attack on the problem of dental economics will avail, and it is an attack which promises fruitful results for physician, dentist and patient alike. The dental profession will have to step out of its shell and mingle constructively with the thinkers who are mobilizing from the related professions to help. It will be a happier day for all when the barriers will be swept away to enable them to join forces and move forward arm in arm.

SIMPLE METHOD FOR CONSTRUCTING OBTURATORS AND PROSTHETIC PATCHES OF PREVULCANIZED LATEX

Paul E. Richards, D.D.S., Hines, Ill.

THE mechanical replacement of anatomic tissues and structures is an ever present problem in the general dental practitioner's treatment planning. Prosthetic procedures require evaluation of conditions with particular reference to location, type of structure lost, pathologic change and mechanical limitations.

Recent publicity has stressed the need for early diagnosis and possible surgical treatment of malignant lesions. In view of the fact that many of these lesions involve the hard and soft palate, cheeks and other parts of the face, the demand for obturators and surgical prosthetic patches is greater now than ever before and will continue to increase in the future.

In lesser numbers, presented for correction are such malconditions as cleft palates, syphilitic and other pathologic fistulas, unhealed tooth sockets involving maxillary sinuses and scar tissue areas in the hard and soft palate.

Defects such as these require early prosthetic treatment, for the untreated patient is handicapped when eating, drinking and speaking. Patients suffering these handicaps may develop a mental condition that results in their withdrawing as much as possible from their normal surroundings and associates.

In the past, efforts have been made with varying success to correct such malconditions by constructing obturators and complex hinged appliances from cast metal, vellum rubber, vulcanite rubber or solid rubber, all attached to some type of denture.

From experience gained in the treatment of mouth wounds of World War II veterans, a very simple process has been developed whereby it is possible to construct obturators of any type, separate and independent of any other prosthetic appliance. These obturators are retained by undercuts or adhesives, and may be inserted or seated at any time after surgical intervention. They will be tolerated by the most sensitive tissues, even postoperatively.

The first consideration in developing these appliances was to find a material that could be used to simplify their construction. Of all the well known dental materials such as vellum rubber, elasto acrylics and various types of metal, prevulcanized latex has proved superior in length of service, creation of sure seal, toleration by tissue and ease in manipulation, fabrication and insertion.

Prevulcanized latex is an aqueous solution composed of about 65 per cent rubber solids and 35 per cent water. When this aqueous solution is dehydrated, a pure, smooth rubber deposit results. An obturator or prosthetic patch can be fabricated to any thickness desired by the application and dehydration of successive coats of the solution. Prevulcanized latex is a well known commercial item and may be obtained from any reputable chemical or drug firm.

The material presented in this paper reflects the viewpoint of the author and not necessarily that of the Department of Medicine and Surgery, Veterans Administration.

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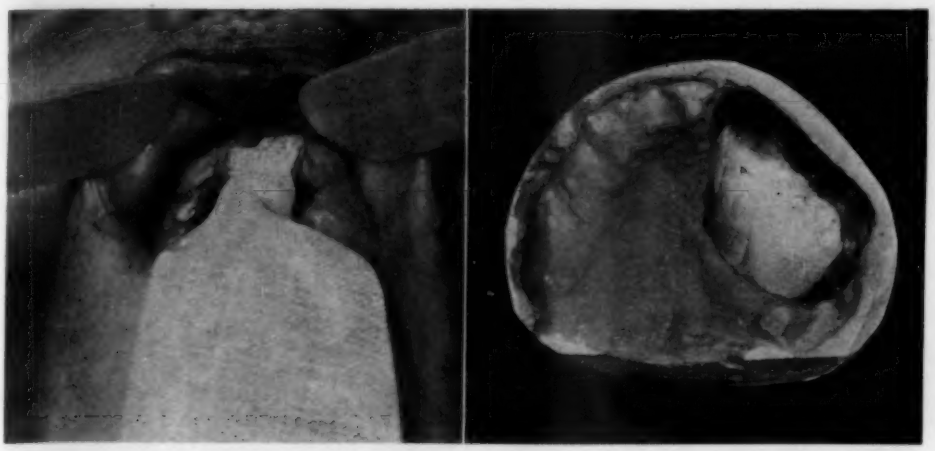

Fig. 1.—Left: Filling the defect beyond extensive undercuts with gauze impregnated with petroleum jelly. Right: Plaster model of the defect

Fabrication of Hollow Obturator

1. Materials and equipment:
   a. Perforated dental trays
   b. Colloid impression compound, agar agar base preferred
   c. Inch wide gauze bandage covered with petroleum jelly
   d. Plaster bowl and spatula
   e. Glass slab
   f. Prevulcanized liquid latex

2. Examine the defect to determine undercuts, counter forces (cheek and tissue pull), depth of the defect, general tone of the tissues involved and desired thickness of the walls of the obturator.

3. Select suitable perforated tray (post-dam tray) to contain hydrocolloid impression material.

4. Pack into the defect, in one piece, inch wide gauze bandage heavily coated with petroleum jelly until the cavity is filled beyond the first undercut (Fig. 1, left). This prevents flaring of the impression material and lessens the chance of fracturing the impression during removal. One continuous piece of gauze is used rather than several smaller pieces, to insure that none will be left in the nasal passages or cavity. The model in Figure 1, right, was prepared especially to illustrate the method of packing the defect.

5. Take hydrocolloid impression of the defect.

6. Remove the impression. If an undercut portion fractures and remains in the choana (funnel-shaped cavity), it is possible to recover it by placing soft wax in the aperture of the defect for a seal, and having the patient hold his nose and blow. The fractured portion will be forced past the soft palate into the oral cavity. The recovered piece then can be attached with pins to the proper place on the body of the impression.

7. Remove gauze packing.

8. Box the hydrocolloid impression and pour a model in plaster of paris. At the same time, pour a slab of the remaining plaster of paris, about 3 inches by 5 inches and ½ inch thick, on a piece of glass in order to secure a smooth plaster surface for use in later fabrication steps.

9. Allow both to set; then separate the impression from the model and the plaster slab from the glass.

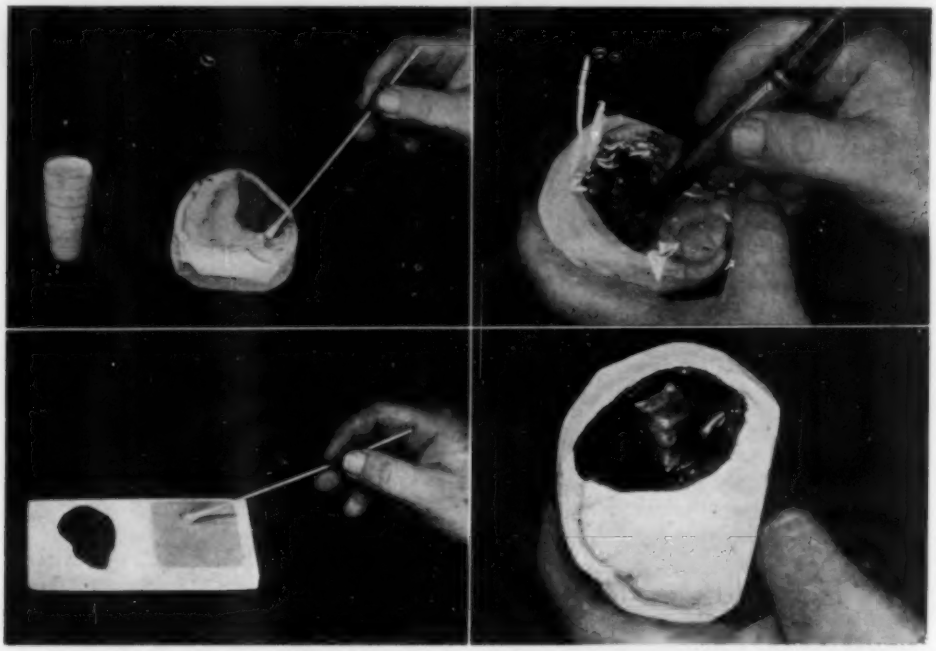

Fig. 2.—Upper left: Application of liquid latex to plaster model. Upper right: Marking the pattern of the orifice of the defect on cellophane. Lower left: Forming a sheet of latex to which cellophane pattern will be transferred. Lower right: Pattern of orifice placed in relation to body of the obturator

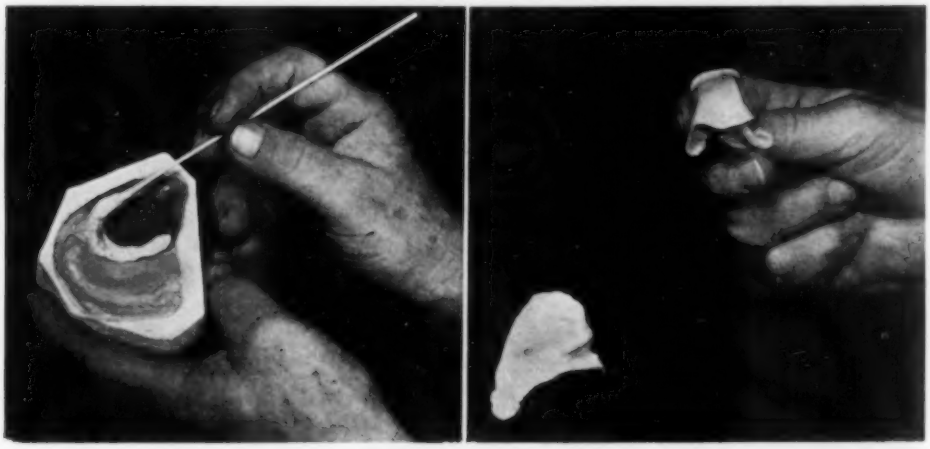

Fig. 3.—Left: Sealing the seams of the obturator. Right: Completed obturator

10. Dehydrate plaster model and slab by placing in oven at 70 C. overnight.

11. With cotton twisted on wooden applicator, apply prevulcanized latex to the model on all exposed surfaces of the defect, and also apply a layer of latex to the smooth surface of the plaster slab. Dehydrate each painted coat in the oven at 70 C. until the milky appearance has disappeared from the latex. Usually 15 to 20 minutes is required for proper dehydration. (Fig. 2, above.)

12. Repeat this process on both model and slab until the layer of latex is strong enough so that the obturator will return to its original shape after distortion, but not too thick for easy insertion.

13. When the desired thickness has been attained: (1) place a clear piece of cellophane over the defect on the model, (2) trace in ink the outline of the orifice, (3) transfer cellophane pattern to the latex on plaster slab, (4) remove latex sheet from the slab and trim in accordance with the outline on the cellophane. (Fig. 2, below.)

14. Place the latex pattern thus formed in proper position over the aperture of the defect, thus closing the hollow portion of the defect which is lined with latex.

15. Paint the seams thus formed with latex, and dehydrate very slowly at a low degree of heat in order not to create steam in the hollow portion of the obturator which may cause a bubble or a break in the seal. (Fig. 3, left.)

16. After three or four paintings to insure a secure seal, allow the obturator to remain in the plaster mold and place it on top of the oven for 48 hours to insure complete dehydration of the prevulcanized latex and also to prevent further shrinkage.

17. Remove obturator from the model, trim feather edges with shears and smooth edges with a white hot spatula. Remove residue with gauze saturated in benzene.

18. Moisten the obturator in water and insert into the defect in the patient's mouth. (Fig. 3, right.)

Prosthetic Patch for Flat Surface

1. In the fabrication of an obturator or prosthetic patch for any flat surface of the body, such as the cheek, abdomen or neck, place the patient in a relaxed position and secure an impression of the structure to be covered, using plaster or hydrocolloid.

2. Box and pour plaster of paris model. Dehydrate model in oven at 70 C.

3. Paint latex in successive coats over area to be covered, dehydrating each coat as painted. Do not build the body of the prosthetic patch thick enough to prevent its bending when different positions are assumed by the patient in his daily life.

Fig. 4.—Flat latex patch for fistula, right quadrant

4. After final dehydration and trimming, clean with alcohol both the surfaces of the prosthetic patch and the skin surrounding the area to be covered. Apply a thin coat of skin adhesive to both patch and skin. Then position patch and allow the adhesive to dry before allowing movement by the patient. (Fig. 4.)

5. Advise patient to remove patch, clean skin surfaces and remove debris from the prosthetic patch with 40 per cent alcohol at least once every 48 hours, and oftener if necessary.

6. It is well to furnish at least three prosthetic patches or obturators to each patient. If sterilization of the patches or obturators is required, suspend them for not less than 30 minutes in 40 per cent alcohol.

7. Number and file plaster models in the laboratory in order that a duplicate prosthesis may be fabricated should occasion necessitate.

Summary

Immediate postoperative correction of defects involving the oral cavity is important in that it enables the patient to eat and drink normally and express himself without a speech defect.

The simplicity of fabrication and tolerance by the tissues of the prosthesis described makes it possible to insert the prosthesis immediately after operation.

The correction of congenital defects in the oral cavity is simplified by the utilization of this type of prosthesis.

Fistulas may be closed by use of the patch when surgery is contraindicated.

▲

Rehabilitation of Cardiac Patients.—Selective Service figures reveal that the rate of rejections in World War II for heart disease was 6 per cent; this compares with 4.2 per cent in World War I. Figures from life insurance companies vary, but one of the large and carefully managed companies gave a rate of rejection from heart disease as 24.4 per thousand. Naturally persons suffering from the more obvious forms of heart disease are not likely to apply for insurance, so that the former figures are not truly representative of the incidence of heart disease in the general population. Among school children in New York City, the Department of Health estimated 1.6 per cent to be suffering from heart defects. Mortality statistics give heart disease as the greatest single cause of death in the United States. . . .

Under the ordinary conditions of life, the normal heart uses only a small fraction of the total available energy, the balance of unused power being held in reserve to meet unusual demands or accidental demands which accompany strenuous or prolonged physical effort. The reserve of muscular power constitutes a factor of safety for use in emergency only. . . .

Certainly heart disease impairs the efficiency of the worker, reduces his output and earning capacity. But many men and women who are admittedly handicapped by heart disease can, under proper supervision and control, carry on suitable work and continue to earn wages. Under favorable conditions where the physical demands of the job do not exceed the patient's tolerance, most persons suffering from chronic heart disease maintain a fair degree of earning capacity. . . .

For the man of middle age, a sudden attack of coronary heart disease may become a major catastrophe. He needs sound advice not only to provide new avenues for productive economic effort but also for emotional assistance in devising a design for living that can still give him real satisfaction. The majority of these individuals remain in former activities. At first they assume only a modified program of activity. As they sense no harmful effects they expand their efforts until a full program of activity is achieved.—*Henry H. Kessler, Rehabilitation of the Physically Handicapped. New York: Columbia University Press, 1947.*

CONSTITUTION AND BYLAWS
AMERICAN DENTAL ASSOCIATION

The present text of the Constitution and Bylaws of the American Dental Association was adopted by the House of Delegates in September 1948. These instruments replace the Constitution and Bylaws under which the Association functioned since 1922. The Articles of Incorporation of the American Dental Association were amended on October 21, 1948, on vote of the Board of Trustees and House of Delegates. The new instruments were introduced in basic form at the eighty-seventh annual session in Miami in 1946. They represent two years of study by the Board of Trustees and the Committee on Constitution and Administrative Bylaws, consisting of Percy T. Phillips of New York City, Max E. Ernst of St. Paul and C. E. Peterson of Rockville, Conn.

The House of Delegates remains as the supreme authority of the Association with full power and responsibilities for the passage of legislation, including amendment or repeal of the Bylaws; for adoption of the annual budgets; for election of officers; for determination of Association policies, and for selection of the site for the annual session.

The Board of Trustees continues as the fiscal body of the Association with full responsibility for the maintenance and supervision of all offices and properties of the Association. The Board is given new authority to establish ad interim policies when the House of Delegates is not in session and when such policies are essential to the management of the Association. Such actions, however, must be reported for review at the next session of the House of Delegates. The Board also elects the secretary, treasurer and editor.

Six classifications for membership are provided in the new Bylaws: active, life, affiliate, student, honorary and associate. The annual dues are as follows: active members, $12; life members, none; student members, $3; affiliate and associate members, $10; honorary members, none. The number of standing committees, councils, boards and commissions has been reduced from 23 to 19. All such agencies are designated as councils with the exception of the National Board of Dental Examiners. Four bureaus are provided for in the new Bylaws. These bureaus operate under the direction of the secretary, and each is assisted by an advisory committee of five active members elected by the House of Delegates.

The thirteen trustee districts remain unchanged and each district elects one member to the Board of Trustees.

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CONSTITUTION OF AMERICAN DENTAL ASSOCIATION

Article I *Name*

The name of this organization shall be the American Dental Association, hereinafter referred to as "the Association" or "this Association."

Article II *Object*

The object of this Association shall be to encourage the improvement of the health of the public and to promote the art and science of dentistry.

Article III *Organization*

Section 10. ***Incorporation:*** This Association is a non-profit corporation organized under the laws of the State of Illinois. If this corporation shall be dissolved at any time, no part of its funds or property shall be distributed to, or among, its members but, after payment of all indebtedness of the corporation, its surplus funds and properties shall be used for dental education and dental research in such manner as the then governing body of the Association may determine.

Section 20. ***Central Office:*** The registered office of this Association shall be known as the Central Office and shall be located in the City of Chicago, County of Cook, State of Illinois.

Section 30. ***Branch Offices:*** Branch offices of this Association may be established in any city of the United States by a majority vote of the House of Delegates.

Section 40. ***Membership:*** The membership of this Association shall consist of dentists and other persons whose qualifications and classifications shall be as established in Chapter I of the Bylaws.

Section 50. ***Constituent Societies:*** Constituent societies of this Association shall be those dental societies or dental associations chartered as such in conformity with Chapter II of the Bylaws.

Section 60. ***Component Societies:*** Component societies of this Association shall be those dental societies or dental associations organized as such in conformity with Chapter III of the Bylaws of this Association and in conformity with the bylaws of their respective constituent societies.

Section 70. ***Trustee Districts:*** The constituent societies of this Association and the federal government dental corps shall be grouped into thirteen (13) trustee districts, as provided in Chapter IV of the Bylaws.

Article IV *Government*

Section 10. ***Legislative Body:*** The legislative and governing body of this Association shall be the House of Delegates, which may be referred to as "the House" or "this House," as provided in Chapter V of the Bylaws.

Section 20. ***Administrative Body:*** This Association shall be administered by a Board of Trustees which may be referred to as "the Board" or "this Board," as provided in Chapter VI of the Bylaws.

Article V *Officers*

Section 10. ***Elective Officers:*** The elective officers of this Association shall be a Presi-

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dent, a President-Elect, a First Vice-President, a Second Vice-President, a Third Vice-President and a Speaker of the House of Delegates, each of whom shall be elected by the House of Delegates as provided in Chapter XII of the Bylaws.

Section 20. ***Appointive Officers:*** The appointive officers of this Association shall be a Secretary, a Treasurer and an Editor, each of whom shall be appointed by the Board of Trustees as provided in Chapter VIII of the Bylaws.

Article VI *Sessions*

Section 10. ***Scientific Sessions:*** Scientific sessions of this Association shall be conducted by the members of the Association as provided in Chapter XIII of the Bylaws.

Section 20. ***Business Sessions:*** Business sessions of this Association shall be conducted by the members of the House of Delegates as provided in Chapter V of the Bylaws.

Article VII *Code of Ethics*

The Code of Ethics of this Association and the codes of ethics of the constituent and component societies which are not in conflict with the Code of Ethics of this Association, shall govern the professional conduct of all members.

Article VIII *Amendments*

This Constitution may be amended by a two-thirds (2/3) affirmative vote of the members of the House of Delegates, provided that the proposed amendments have been presented in writing at any previous session of the House of Delegates.

This Constitution also may be amended at any session of the House of Delegates by a unanimous vote, provided the proposed amendments have been presented in writing at a previous meeting of said session.

BYLAWS OF THE AMERICAN DENTAL ASSOCIATION

Chapter I *Membership*

Section 10. ***Classification:*** The members of this Association shall be classified as follows:

Active members.
Life members
Affiliate members
Student members
Honorary members
Associate members

Section 20. ***Qualifications:***

A. ***Active Member.*** Any dentist licensed to practice in any one of the states, districts, territories or dependencies of the United States who is a member in good standing of this Association and a member in good standing of one of its constituent societies and a component thereof if such exists, or any dentist who is a member in good standing of this Association and who is licensed to practice in a territory or a dependency of the United States in which no constituent society has been chartered, or any dentist who is a member in good standing of this Association and who is a member of a federal government dental corps, shall be classified as an active member of this Association.

B. ***Life Member.*** A dentist who has been an active member of this Association in good standing for thirty-five (35) years, having attained the age of sixty-five (65) years, may, at his request, be classified as a life member of this Association. Recommendations for life membership shall be made by the Board of Trustees and acted upon by the House of Delegates. A member who is elected a life member of this Association must pay dues and fees to his constituent or component society unless such dues or fees are waived.

C. ***Affiliate Member.*** An ethical dentist practicing in any country other than the United States who is a member of a recognized dental organization in such country may file with the Council on Membership of this Association an application for affiliate membership, which shall be referred with the Council's recommendation to the House of Delegates for action. If elected, on payment of dues as provided in Chapter XV of these By-Laws, he shall be classified as an affiliate member of this Association.

D. ***Student Member.*** Any undergraduate of a dental school accredited by this Association, who has been recommended by the dean of such dental school or by his appointed representative, or any graduate who, immediately after graduation, takes up an internship, residency or graduate work, on the payment of dues as provided in Chapter XV of these Bylaws, shall be classified as a student member of this Association. In order to become an active member of this Association, a student member must make application to a constituent or component society.

E. ***Honorary Member.*** Any individual who has made outstanding contributions to the advancement of the art and science of dentistry and who has been elected by the House of Delegates on the nomination of the Board of Trustees, shall be classified as an honorary member of this Association.

F. ***Associate Member.*** Any member of an allied profession who contributes to the advancement of dentistry may be classified as an associate member. Recommendations for associate membership shall be made by the Board of Trustees and acted upon by the House of Delegates.

Section 30. ***In Good Standing:*** Any member of this Association who is not under final sentence of suspension or expulsion and whose dues for the current calendar year have been paid

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shall be considered a member in good standing.

Any member of this Association receiving assistance from the relief fund of this Association shall be exempt from the payment of dues and shall be considered in good standing.

Section 40. ***Privileges:***

A. ***Active Member.*** a. An active member in good standing shall receive annually a certificate of membership and *The Journal of the American Dental Association,* the subscription price of which shall be included in the annual dues. He shall be entitled also to admission to any scientific session of this Association and to such other services as are provided by the Association.

b. An active member in good standing shall be eligible for election as a delegate or alternate delegate to the House of Delegates and for election or appointment to any office, committee, council, board or similar position in the Association, except as otherwise hereinafter provided.

B. ***Life Member.*** A life member in good standing shall receive a certificate of life membership. He shall be entitled to all the privileges of an active member except that he shall not receive *The Journal of the American Dental Association* unless by subscription.

C. ***Affiliate Member.*** An affiliate member in good standing shall receive annually a certificate of affiliate membership and *The Journal of the American Dental Association,* the subscription price of which shall be included in the annual dues. He shall be entitled also to admission to any scientific session of this Association and to such other services as are provided by the Association.

D. ***Student Member.*** A student member in good standing shall receive annually a membership certificate and *The Journal of the American Dental Association,* the subscription price of which shall be included in the annual dues. He shall also be entitled to admission to any scientific session of this Association.

E. ***Honorary Member.*** An honorary member shall receive a certificate of honorary membership and *The Journal of the American Dental Association.* He shall be entitled also to admission to any scientific session of this Association and to such other services as are provided by the Association.

F. ***Associate Member.*** An associate member in good standing shall receive annually a certificate of associate membership and *The Journal of the American Dental Association,* the subscription price of which shall be included in the annual dues. He shall be entitled also to admission to any scientific session of this Association and to such other services as are provided by the Association.

G. ***Right of Hearing.*** Any member who is charged (1) with having been found guilty of a felony, (2) with having been found guilty of violating the dental practice act of a state, district, territory, dependency or country or (3) with violating these Bylaws, the Code of Ethics of this Association, the codes of ethics of the constituent or component societies, shall have the right of a hearing from the society preferring charges.

H. ***Right of Appeal.*** An accused member shall have the right to appeal from a decision of his component society to the constituent society by filing an appeal in affidavit form with the secretary of the constituent society. An accused member, or the component society concerned, shall have the right to appeal from a decision of a constituent society to the Judicial Council of this Association by filing an appeal in affidavit form with the chairman of the Judicial Council. An accused member, the constituent society concerned or the component society concerned shall have the right to appeal from a decision of the Judicial Council of this Association to the House of Delegates by filing an appeal in affidavit form with the Secretary of the House of Delegates.

An appeal from any decision shall not be valid unless filed within thirty (30) days after such decision has been rendered. No decision shall become final while an appeal therefrom is pending.

Chapter II *Constituent Societies*

Section 10. ***Organization:*** A constituent society may be organized and chartered, subject to the approval of the House of Delegates, upon the application of at least twenty-five (25) dentists practicing in any state, district, territory, dependency or federal government dental corps of the United States, who are active or life members, in good standing, of this Association. No such society shall be chartered in any state, district, territory, dependency or federal government dental corps of the United States in which a constituent society is already chartered by this Association.

Section 20. ***Name:*** A constituent society shall take its name from the state, district, territory, dependency or federal government dental corps within which it is chartered.

Section 30. ***Powers and Duties:***

A. A constituent society shall have the power to elect its members and to elect its fully-privileged members as active members of this Association within the limits imposed by Section 40 of this Chapter.

B. It shall have the power to organize its members into component societies within the limits imposed by Chapter III, Section 10, of these Bylaws.

C. It shall have the power to provide for its financial support and to make laws, rules and regulations to govern its members provided such laws, rules and regulations do not conflict with these Bylaws.

D. It shall have the power to discipline any of its members by censure, probation, suspension or expulsion for having been found guilty of a felony, for having been found guilty of violating the dental practice act of any state, district, territory or dependency, and for violating these Bylaws, the Code of Ethics of this Association or the code of ethics adopted by the constituent or component society of which he is a member, subject to provisions in Chapter I, Section 40, G and H, of these Bylaws.

E. It shall be its duty to collect membership dues for this Association in conformity with Chapter XV, Section 10, of these Bylaws.

Section 40. ***Membership:*** The fully privileged membership of each constituent society shall be limited to dentists practicing within the territorial jurisdiction of such constituent society or to dentists in a federal government dental corps, provided that such dentists are in good standing in a component society thereof, if such exists, and provided that they are active or life members in good standing of this Association.

Explanatory Note: Any dentist who has retired from active practice or who is engaged in activities furthering the object of this Association may be considered to be practicing dentistry within the meaning of this section.

Section 50. ***Officers:*** The officers of a constituent society shall be president, secretary, treasurer and such others as may be prescribed in its constitution and bylaws.

Section 60. ***Sessions:*** A constituent society shall hold a business session at least once each calendar year.

Section 70. ***Code of Ethics:*** The Code of Ethics of this Association and the code of ethics adopted by the constituent society shall be the code of ethics of that constituent society for governing the professional conduct of its members.

Section 80. ***Constitution and Bylaws:*** Each constituent society shall adopt and maintain a constitution and bylaws, which shall not be in conflict with the Constitution and Bylaws of this Association and shall file a copy thereof and any changes which may be made thereafter, with the Secretary of this Association.

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Section 90. ***Privilege of Representation:*** Each constituent society shall have the privilege of representation in the House of Delegates of this Association by one or more fully-privileged members of such society who are selected to serve as officially certified delegates according to the following formula: one (1) delegate for twenty-five (25) through ninety-nine (99) members classified as active or life members of this Association, one (1) additional delegate for the next two hundred (200) such members or fraction thereof; one (1) additional delegate for each additional two hundred (200) such members.

Each constituent society may select from among its fully-privileged members the same number of alternate delegates as delegates. An alternate delegate may act in the absence of a delegate at any meeting of the House of Delegates. Each constituent society shall have the privilege of determining the alternate delegate who shall be substituted for an absent delegate from that constituent society.

Section 100. ***Chartered Constituent Societies:*** The Secretary of the Association is authorized to issue a charter, in a form approved by the Board of Trustees, to each constituent society denoting its name and territorial jurisdiction. The following societies hereby are chartered as constituent societies of this Association:

Alabama Dental Association
Arizona State Dental Society
Arkansas State Dental Association
California State Dental Association
California State Dental Association, Southern
Colorado State Dental Association, The
Connecticut State Dental Association, The
Delaware State Dental Society
District of Columbia Dental Society, The
Florida State Dental Society
Georgia Dental Association
Hawaii Territorial Dental Society
Idaho State Dental Society
Illinois State Dental Society
Indiana State Dental Association
Iowa State Dental Society
Kansas State Dental Association, The
Kentucky State Dental Association
Louisiana State Dental Society, The
Maine Dental Society
Maryland State Dental Association
Massachusetts Dental Society
Michigan State Dental Society
Minnesota State Dental Association
Mississippi Dental Association, The
Missouri State Dental Association, The
Montana State Dental Association, Inc.
Nebraska State Dental Association
Nevada State Dental Association
New Hampshire Dental Society
New Jersey State Dental Society, The
New Mexico State Dental Society
New York, The Dental Society of the State of
North Carolina Dental Society, The
North Dakota State Dental Association
Ohio State Dental Association

Oklahoma State Dental Association
Oregon State Dental Association
Panama Canal Zone Dental Society
Pennsylvania State Dental Society, The
Puerto Rico, Colegio de Cirujanos Dentistas de
Rhode Island State Dental Society
South Carolina State Dental Association
South Dakota State Dental Society
Tennessee State Dental Association
Texas State Dental Society
Utah State Dental Association
Vermont State Dental Society
Virginia State Dental Association
Washington State Dental Association
West Virginia State Dental Society
Wisconsin State Dental Society
Wyoming State Dental Association

Chapter III *Component Societies*

Section 10. ***Organization:*** Component societies may be organized in conformity with a plan approved by the constituent society of which they shall be recognized entities provided, however, that the fully-privileged members of each component society shall consist of dentists who are members in good standing of their respective constituent societies and of this Association. Each component society shall adopt and maintain a constitution and Bylaws, which shall not be in conflict with the Constitution and Bylaws of this Association, and shall file a copy thereof and any changes which may be made thereafter with the Secretary of this Association.

Section 20. ***Powers and Duties:***

A. A component society shall have the power to elect its members and to elect its fully-privileged members as fully-privileged members of the constituent society, within the limits imposed by Chapter II, Section 40, of these Bylaws.

B. It shall have the power to make laws, rules and regulations, not in conflict with the Bylaws of this Association; to adopt a code of ethics, not in conflict with the Code of Ethics of this Association; to govern the professional conduct of its members; to provide for its financial support.

C. It shall have the power to discipline any of its members by censure, probation, suspension or expulsion for having been found guilty of a felony; for having been found guilty of violating the dental practice act of a state, district, territory or dependency; for violating these Bylaws or the Code of Ethics of this Association subject to the provisions in Chapter I, Section 40, G and H, of these Bylaws.

D. It shall be its duty to collect membership dues for this Association in conformity with Chapter XV, Section 10, of these Bylaws.

Chapter IV *Trustee Districts*

Section 10. ***Organization:*** The constituent societies and the federal government dental corps shall be grouped into thirteen (13) trustee districts designated by the numbers 1 to 13 respectively, each of which shall be composed of approximately one-thirteenth (1/13) of the total number of active and life members of this Association insofar as this is practicable geographically.

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Section 20. ***Purpose:*** The purpose of the trustee districts is to provide for the representation of the members of the constituent societies and the federal government dental corps on the Board of Trustees.

Section 30. ***Composition:*** The trustee districts are numbered and composed as follows:

District 1

Connecticut State Dental Association, The
Maine Dental Society
Massachusetts Dental Society
New Hampshire Dental Society
Rhode Island State Dental Society
Vermont State Dental Society

District 2

New York, The Dental Society of the State of

District 3

Pennsylvania State Dental Society, The

District 4

Army Dental Corps
Delaware State Dental Society
District of Columbia Dental Society, The
Maryland State Dental Association
Navy Dental Corps
New Jersey State Dental Society, The
Public Health Service, U. S.
Puerto Rico, Colegio de Cirujanos Dentistas de
Veterans Administration

District 5

Alabama Dental Association
Florida State Dental Society
Georgia Dental Association
Mississippi Dental Association, The
North Carolina Dental Society, The
South Carolina State Dental Association
Virginia State Dental Association

District 6

Kentucky State Dental Association
Missouri State Dental Association, The
Tennessee State Dental Association
West Virginia State Dental Society

District 7

Indiana State Dental Association
Ohio State Dental Association

District 8

Illinois State Dental Society

District 9

Michigan State Dental Society
Wisconsin State Dental Society

District 10

Iowa State Dental Society
Minnesota State Dental Association

District 11

Idaho State Dental Society
Montana State Dental Association, Inc.
Nebraska State Dental Association
North Dakota State Dental Association
Oregon State Dental Association
South Dakota State Dental Society
Washington State Dental Association
Wyoming State Dental Association

District 12

Arkansas State Dental Association
Colorado State Dental Association, The
Kansas State Dental Association, The
Louisiana State Dental Society, The
New Mexico State Dental Society
Oklahoma State Dental Association
Texas State Dental Society

District 13

Arizona State Dental Society
California State Dental Association
California State Dental Association, Southern
Hawaii Territorial Dental Society
Nevada State Dental Association
Panama Canal Zone Dental Society
Utah State Dental Association

Chapter V *House of Delegates*

Section 10. ***Composition:*** The House of Delegates shall be composed of the officially certified delegates of each constituent society and one (1) officially certified delegate from each of the federal government dental corps which is not organized into a constituent society of this Association. The elective officers, the voting members of the Board of Trustees and the past-presidents of this Association shall be *ex officio* members of the House of Delegates without the power to vote unless duly selected as delegates of their respective constituent societies or federal government dental corps.

Section 20. ***Certification of Delegates and Alternate Delegates:*** The secretary of each constituent society and the ranking administrative dental officer of each federal government dental corps shall file with the Secretary of this Association, at least sixty (60) days prior to the first day of the annual session of the House of Delegates, the names of delegates and alternate delegates duly selected by his society or corps. The Secretary of this Association shall provide each delegate and alternate delegate with proper credentials which shall be presented to the Committee on Credentials of the House of Delegates for registration and admission to the meetings of the session. In the event of a contest over the credentials of any delegate or alternate delegate, the Committee on Credentials shall hold a hearing and report its findings and recommendations to the House of Delegates for final action.

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Section 30. ***Powers:***
A. The House of Delegates shall be the supreme authoritative body of this Association.
B. It shall possess the legislative powers of the Association.
C. It shall determine the policies which shall govern this Association in all of its activities.
D. It shall have the power to enact, amend and repeal the Constitution and Bylaws of the Association.
E. It shall have the power to adopt and amend the Code of Ethics for governing the professional conduct of the members of this Association.
F. It shall have the power to grant, amend or revoke charters of constituent societies.
G. It shall have the power to elect life, affiliate, honorary and associate members of the Association.
H. It shall have the power to create special committees of the Association.
I. It shall have the power to establish branch offices of the Association.
J. It shall have the power to approve all memorials, resolutions or opinions in the name of the American Dental Association.

Section 40. ***Duties:*** It shall be the duty of the House of Delegates:
A. To elect the elective officers.
B. To elect the members of the Board of Trustees.
C. To elect the members of the Association's councils and advisory committees.
D. To select the place for the annual session of the House of Delegates and the annual scientific session
E. To adopt an annual budget.
F. To serve as the court of appeal from a decision of the Judicial Council on any disciplinary action taken against any member of this Association.

Section 50. ***Transfer of Powers and Duties of the House of Delegates:*** The powers and duties of the House of Delegates referred to in Sections 30 and 40 of this Chapter, except the power to amend, enact and repeal the Constitution and Bylaws of this Association and the duty of electing the elective officers and the members of the Board, may be transferred to, and assumed by, the Board of Trustees of this Association in time of extraordinary emergency. The existence of a time of extraordinary emergency shall be determined by mail vote of the last House of Delegates on recommendation of at least five (5) of the elective and appointive officers. A mail vote to be valid shall consist of ballots received from not less than one-fourth (¼) of the members of said House of Delegates. A majority of the votes cast within thirty (30) days after the posting of the ballot shall decide such vote.

Section 60. ***Annual Sessions:*** The House of Delegates shall convene annually. Whenever annual scientific sessions are to be held, such annual session of the House of Delegates shall convene not less than one (1) day nor more than three (3) days, as determined by the Board of Trustees, preceding the opening of, and in the same city as, the annual scientific session of this Association. The House shall meet each day thereafter until adjournment *sine die,* except that recesses may be taken for not longer than a forty-eight (48) hour period.

Section 70. ***Special Sessions:*** A special session of the House of Delegates shall be called by the President to consider only such business as shall be mentioned in the call, on three-fourths (¾) affirmative vote of the members of the Board of Trustees present and voting in a regular or special session, or on written request of one-fifth (1/5) of the officially certified delegates who comprised the last House of Delegates provided, however, that such request shall be made by at least one (1) delegate each from not less than one-third (1/3) of the constituent societies. The time and place of any special session of the House shall be determined by the President provided, however, that the time selected shall be not more than forty-five (45) days after the date the vote was taken or the request received.

Section 80. ***Official Call:***

A. ***Annual Sessions.*** The Secretary of the Association shall cause to be published in *The Journal of the American Dental Association* an official notice of the time and place of each annual session, and he shall send each delegate and alternate delegate a copy of such notice, together with his official credentials, as soon as practicable after each such delegate and alternate delegate has been officially certified, but not less than thirty (30) days before the opening of such session.

B. ***Special Sessions.*** The Secretary of the Association shall send an official written notice of the time and place of each special session and a statement of the business to be considered to every officially certified delegate and alternate delegate of the last House, not less than twenty (20) days before the opening of any such session.

Section 90. ***Quorum:*** One-fourth (1/4) of the voting members of the House of Delegates shall constitute a quorum for the transaction of business at any meeting of any session.

Section 100. ***Officers:***

A. ***Number and Title.*** The officers of the House shall be a chairman and a secretary. The Speaker of the House of Delegates shall be the chairman, and the Secretary of this Association shall be the secretary.

In the absence of the Speaker, the office of chairman shall be filled by the President. In the absence of the Secretary, the chairman shall appoint a secretary *pro tem.*

B. ***Duties:***

a. ***Chairman.*** The Chairman shall preside at all meetings of the House of Delegates, cast the deciding vote in case of a tie, appoint judges and tellers to assist him in determining the result of any action taken by ballot and perform such other duties as custom and parliamentary usage require.

He may consult a parliamentarian when a question of order arises. The decision of the Chairman shall be final unless an appeal from such decision shall be made by a member of the House, in which case final decision shall be by a majority vote.

b. ***Secretary.*** The Secretary shall serve as the recording officer of the House and the custodian of its records. He shall utilize the services of a professional recorder for the purpose of obtaining a stenographic record of the proceedings of the House and shall cause a factual record of the proceedings to be edited and published as the official transactions of the House. He shall serve as the reading clerk of the House but may designate an assistant to perform this duty.

Section 110. ***Order of Business, Annual Sessions:*** Unless changed by a two-thirds (2/3) affirmative vote, the order of business for meetings of any annual session shall be as follows:

A. ***First Day:***

a. Meeting called to order by the chairman
b. Report of Committee on Credentials
c. Reading of minutes of previous session
d. Reports of officers
e. Report of the Board of Trustees, including presentation of nominations
f. Reports of councils and committees
g. Reports of reference committees
h. Unfinished business
i. New business
j. Adjournment

B. ***Second Day:***

a. Meeting called to order by chairman

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b. Report of Committee on Credentials
c. Reading of minutes of previous meeting
d. Report of Board of Trustees, including presentation of budget
e. Report of councils and committees
f. Reports of reference committees
g. Unfinished business
h. Nomination of officers, trustees and members of councils and committees
i. New business
j. Adjournment

C. ***Last Day:***
a. Meeting called to order by chairman
b. Report of Committee of Credentials
c. Reading of minutes of previous meeting
d. Report of Board of Trustees
e. Report of reference committees
f. Unfinished business
g. Announcement of election of officers
h. Installation of officers
i. Adjournment

Section 120. ***Order of Business, Special Sessions:*** The order of business for any special session of the House of Delegates shall be:

a. Meeting called to order by the chairman
b. Report of Committee on Credentials
c. Reading of the call for special meeting
d. Transaction of business as provided in the call
e. Adjournment

Section 130. ***Rules of Order:***

A. ***Standing Rules.***

a. ***Reports.*** All reports, except supplemental reports, of elective officers, Board of Trustees, councils and committees shall be published under the direction of the Secretary of the Association and sent to each delegate and alternate delegate at least fourteen (14) days in advance of the opening of the annual session. All supplemental reports of any such officers or agencies shall be distributed if possible to each delegate before such report is considered by the House.

b. ***Recommendations or Resolutions on Appropriation of Funds.*** Any recommendation or resolution, except the annual budget, presented in the House proposing an appropriation of funds of this Association shall be referred to the Board of Trustees for consideration and report, at the same or at a later meeting of the House, relative to the availability of such funds for the purpose specified.

c. ***Consideration of Budget.*** The annual budget shall be submitted to the House of Delegates as soon as possible, but in all instances it shall be presented at a meeting prior to the last meeting of each session. In the event the budget as submitted is not approved by the House, all recommendations concerning changes shall be referred to the Board of Trustees for the preparation of a revised budget, which revised budget shall be submitted to the House as soon thereafter as possible. This procedure shall be repeated until a budget for the ensuing fiscal year shall be adopted.

d. ***Introduction of New Business at Last Meeting.*** No new business shall be introduced into the House of Delegates at the last meeting of an annual session unless by unanimous consent of the delegates. Action on any such new business shall require unanimous vote for adoption.

B. ***Additional Rules.*** The rules contained in "Robert's Rules of Order, Revised," shall

govern the deliberations of the House in all cases in which they are applicable and not in conflict with the standing rules or these Bylaws.

Section 140. ***Committees:*** The committees of the House shall be:

A. ***Committee on Credentials.***

a. ***Personnel.*** A Committee on Credentials, consisting of three (3) officially certified delegates, shall be appointed by the President at least twenty (20) days in advance of each session.

b. ***Duties.*** It shall be the duty of the Committee on Credentials:

(1) To determine and record the roll of the House at each meeting and to report at the time provided in the order of business.

(2) To conduct a hearing on any contest which may arise over the certification of a delegate or alternate delegate and to report its recommendations to the House.

B. ***Reference Committees.***

a. ***Personnel.*** Reference committees consisting of three (3) members each shall be appointed by the President at least twenty (20) days in advance of each session.

b. ***Duties.*** It shall be the duty of a reference committee to consider reports referred to it, to conduct open hearings and to report its recommendations to the House of Delegates.

C. ***Special Committees.*** Special committees of the House may be appointed by the Chairman, who shall appoint such committees on direction of the House to serve until adjournment *sine die* of the session at which they were appointed, for the purpos of performing any duty not otherwise assigned by these Bylaws to a committee of the House.

Chapter VI *Board of Trustees*

Section 10. ***Composition:*** The Board of Trustees shall consist of one (1) trustee from each of the thirteen (13) trustee districts. Such thirteen (13) trustees shall constitute the voting membership of the Board. In addition, the elective and appointive officers of the Association except as otherwise provided in these Bylaws shall be *ex officio* members without the right to vote.

Section 20. ***Qualifications:*** A trustee must be an active or life member, in good standing, of this Association and a fully-privileged member of one of the constituent societies which compose the trustee district he is elected to represent. Should the status of any trustee change in regard to the preceding qualifications during his term of office, that office shall be declared vacant and the President shall proceed to fill such vacancy as provided in Chapter VI, Section 70, of these Bylaws.

Section 30. ***Term of Office:*** The Trustees shall be divided into three groups of four (4), four (4) and five (5) respectively, each group to serve for a period of three (3) years. One group shall be elected annually.

Section 40. ***Nomination:*** At each annual session of the House of Delegates, the delegates from the constituent societies in each trustee district in which the term of office of the trustee is about to expire shall hold a caucus for the purpose of selecting a nominee or nominees for the office of trustee. Such caucus, in each case, shall be called by the trustee whose term is about to expire, or by some delegate from the district appointed by the President of the Association if such trustee is absent. The notice of the time and place of such caucus shall be reported to the secretary of the House who shall announce same to the House at a convenient time.

At such caucus, the delegates shall nominate one (1) or two (2) candidates for the office of trustee, whose name or names shall be presented to the House at the proper time. Such nominations shall be made on the morning of the scond day in accordance with the following rules:

A. A person receiving the unanimous vote of the delegates present and voting shall be the

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only nominee of the district, and the name of such nominee shall be presented to the House as the only nominee of that district.

In the event that one (1) candidate receives a majority vote, one (1) or more of the delegates voting in the minority may select another nominee and the names of such nominees shall be presented to the House as the nominees of that district.

In all cases, the number of votes received by each nominee in the caucus shall be reported to the House.

B. A nominating speech of two minutes shall be allowed in the House in behalf of each nominee. Seconding speeches for any nominees shall be limited to one (1) minute in length and two (2) in number.

Section 50. ***Election:*** The trustee shall be elected by the House according to the following rules:

A. If there is only one (1) nominee from a trustee district, the chairman shall declare such nominee elected.

B. If there is more than one (1) nominee from a trustee district, the election shall be by ballot in accordance with Chapter XII, Section 10. The person receiving the largest number of votes cast shall be declared elected.

Section 60. ***Installation:*** The trustees shall be installed by the President or someone delegated by him at the time scheduled in the order of business.

Section 70. ***Vacancy:*** In the event of a vacancy in the office of a trustee, the President shall appoint a qualified member of the constituent society in the trustee district in which the vacancy occurs to fill such office until a successor is elected by the next House of Delegates for the remainder of the unexpired term.

Section 80. ***Powers:***

A. The Board shall be the managing body of the Association, vested with full power to conduct all business of the Association, subject to the laws of the State of Illinois, the Articles of Incorporation, the Constitution and Bylaws and the mandates of the House of Delegates.

B. It shall have the power to establish rules and regulations not inconsistent with these Bylaws to govern its organization, procedure and conduct.

C. It shall have the power to direct the President to call a special session of the House of Delegates as provided in Chapter V, Section 70, of the Bylaws.

D. It shall have the power to nominate to the House of Delegates candidates for honorary membership or for the honorary award of this Association.

E. It shall have full discretionary power to cause to be published in, or to be omitted from, any official publication of the Association any article in whole or in part, except the editorials written or approved by the Editor.

It shall have the power to establish ad interim policies when the House of Delegates is not in session and when such policies are essential to the management of the Association, provided, however, that all such policies must be presented for review at the next session of the House of Delegates.

Section 90. ***Duties.*** It shall be the duty of the Board of Trustees:

A. To provide for the maintenance and supervision of the Central Office and all other property or offices owned or operated by this Association.

B. To appoint qualified members of the Association to the offices of Secretary, Treasurer and Editor, respectively.

C. To determine the time for convening each annual session of the House of Delegates within the limits set forth in Chapter V, Section 60, of these Bylaws.

D. To cause to be bonded by a reliable surety company any appointive officer or employee of the Association entrusted with Association funds for whatever amount deemed necessary.

E. To cause to be audited by a reputable auditor all accounts of the Association at least semiannually.

F. To prepare a budget for carrying on the activities of the Association for each ensuing fiscal year.

G. To provide for the publication and distribution of all official publications of the Association.

H. To cause to be distributed to the secretary of each constituent society and component thereof all approved plans for increasing the principal of the Relief Fund of this Association and to promulgate the rules and regulations for the granting of financial aid to dentists, their dependents and survivors.

I. To submit to the House of Delegates at the opening meeting, nominations in printed form for membership in the various councils and advisory committees of this Association, except as otherwise provided in these Bylaws.

J. To appoint annually the chairman of each council and advisory committee of the Association.

K. To review the annual written reports of all councils and special committees of the Association and to make recommendations concerning same to the appropriate reference committee of the House of Delegates.

L. To cause to be promulgated in *The Journal of the American Dental Association* all policies of the Association adopted by the House of Delegates.

M. To act on applications for membership received from the Council on Membership.

N. To submit an annual report to the House of Delegates concerning its activities and those of the appointive officers of the Association.

O. To recommend to the House of Delegates suitable places for annual sessions.

P. To recommend to the House of Delegates nominees for life and associate memberships.

Q. To perform such other duties as are prescribed by these Bylaws.

Section 100. *Sessions:*

A. ***Regular Sessions.*** There shall be three regular sessions of the Board each year:

a. Immediately after the close of each annual session of the House of Delegates.

b. During the months of January, February or March, as may be determined by the Board.

c. Immediately before and during each annual session of the House of Delegates. This session shall continue until adjournment *sine die* of the House but may be recessed from time to time.

B. ***Special Sessions.*** Special sessions of the Board may be called at any time by the President. He shall call such sessions on request of five (5) members of the Board, provided that due notice of any such session is given to each member of the Board at least ten (10) days in advance of the time scheduled for holding such session. No other business shall be considered except that provided in the call unless unanimous consent is obtained from the members present and voting.

Section 110. *Quorum:* A majority of the voting members of the Board of Trustees shall constitute a quorum for the transaction of business at any session.

Section 120. *Officers:*

A. ***Number and Title.*** The officers of the Board of Trustees shall be a chairman and a secretary. The President of this Association shall be the chairman, and the Secretary of this Association shall be the secretary.

In the absence of the President, the office of chairman shall be filled by one of the Vice-Presidents, and in the event of the absence of all of the Vice-Presidents, a voting member of the Board shall be elected to serve as chairman *pro tem.*

In the absence of the Secretary, the Chairman shall appoint a secretary *pro tem.*

B. ***Duties.***

a. ***Chairman.*** The chairman shall preside at all meetings of the Board, cast the

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deciding vote in the case of a tie and perform such other duties as custom and parliamentary usage require.

He may utilize the counsel and advice of a professional parliamentarian when a question of order arises provided, however, that the decision of the chairman shall be final unless an appeal from such decision is made by a member of the Board, in which case final decision shall be by a majority vote of the trustees present and voting.

b. ***Secretary.*** The secretary shall serve as the recording officer of the Board and as the custodian of its records. He shall utilize the services of a professional recorder for the purpose of obtaining a stenographic record of the proceedings of the Board and shall cause a factual record of such proceedings to be edited and published as the official transactions of the Board. He shall serve as the reading clerk of the Board but may designate an assistant to perform this duty.

Chapter VII *Elective Officers*

Section 10. ***Number and Title:*** The elective officers of this Association shall be six (6) in number: President, President-Elect, First Vice-President, Second Vice-President, Third Vice-President and Speaker of the House of Delegates, as provided in Article V of the Constitution.

Section 20. ***Eligibility:*** Only an active or life member, in good standing, of this Association shall be eligible to serve as an elective officer.

Section 30. ***Nominations:*** At the first meeting of the second day of each annual session of the House of Delegates, as provided in Chapter V, Section 110, of the Bylaws, nominations for the offices of President-Elect, First Vice-President, Second Vice-President, Third Vice-President and Speaker of the House of Delegates shall be made. No nominating speech shall exceed four (4) minutes in length. Seconding speeches for any nominee shall be limited to one (1) minute in length and two (2) in number.

Section 40. ***Elections:*** The elective officers shall be elected in accordance with Chapter XII, Section 10.

Section 50. ***Tenure of Office:*** The elective officers shall serve for a term of one (1) year or until their successors are elected and installed.

Section 60. ***Installation:*** The elective officers shall be installed at the last meeting of each annual session of the House as provided in Chapter V, Section 110, of the Bylaws. The President-Elect shall be installed as President at the next annual session of the House following that of his election.

Section 70. ***Vacancies:*** In the event the office of President becomes vacant, the First Vice-President shall become President for the unexpired portion of the term. In the event the office of First Vice-President becomes vacant, the Second Vice-President shall become the First Vice-President for the unexpired portion of the term. In the event the office of Second Vice-President becomes vacant, the Third Vice-President shall become the Second Vice-President for the unexpired portion of the term. A vacancy in the office of Third Vice-President or Speaker of the House of Delegates shall be filled by a majority vote of the Board of Trustees. In the event the office of President-Elect becomes vacant, the office of President for the ensuing year shall be filled at the next annual session of the House in the same manner as that provided for the nomination and election of elective officers, except that the ballot shall read "President for the Ensuing Year."

Section 80. ***Duties:*** The duties of the elective officers shall be:

A. ***President.*** It shall be the duty of the President:

a. To serve as an official representative of this Association in its contacts with govern-

mental, civic, business and professional organizations for the purpose of advancing the objects and policies of this Association.

b. To serve as chairman and *ex officio* member of the Board of Trustees, performing such duties as are provided in Chapters V and VI of these Bylaws.

c. To preside at the general meetings of the annual scientific session and to deliver an address at the opening general meeting of such sessions on such matters as he may deem important to the public and the dental profession.

d. To call special sessions of the House of Delegates and the Board of Trustees as provided in Chapters V and VI of these Bylaws.

e. To appoint the members of all committees of the House of Delegates unless otherwise provided for by these Bylaws.

f. To fill any vacancies in the office of trustee as provided in Chapter VI, Section 70, of these Bylaws.

g. To submit a written report of the activities of his office to the House of Delegates.

h. To perform such other duties as may be provided in these Bylaws.

B. ***President-Elect.*** It shall be the duty of the President-Elect:

a. To assist the President as requested.

b. To serve as an *ex officio* member of the House of Delegates, unless he is serving as an officially certified delegate.

c. To serve as an *ex officio* member of the Board of Trustees.

d. To succeed to the office of President without other election at the next annual session of the House of Delegates after that at which he was elected to the office of President-Elect.

C. ***Vice-Presidents.*** It shall be the duty of the Vice-Presidents:

a. To assist the President as requested.

b. To serve as *ex officio* members of the House of Delegates unless they are serving as officially certified delegates.

c. To serve as *ex officio* members of the Board of Trustees.

d. To succeed to the office of President, First Vice-President or Second Vice-President in the event of vacancy in any such office as provided in this chapter of these Bylaws.

D. ***Speaker of the House of Delegates.*** The Speaker shall preside at the meetings of the House of Delegates and shall perform such duties as custom and parliamentary usage require. He shall have the right to vote only when his vote shall be the deciding vote. The Speaker shall not be a member of the Board of Trustees.

Chapter VIII *Appointive Officers*

Section 10. ***Number and Title:*** The appointive officers of this Association shall be three (3) in number: Secretary, Treasurer and Editor, as provided in Article V of the Constitution.

Section 20. ***Nominations and Appointments:*** Any voting member of the Board of Trustees may nominate any active or life member, in good standing, of this Association to any appointive office, and the Board shall appoint to such office the nominee receiving a majority vote of the Board.

Section 30. ***Tenure of Office and Salary:*** The Board of Trustees shall determine the tenure of office and salary of each appointive officer, but the term of any such officer shall not exceed three (3) years.

Section 40. ***Duties:*** The duties of the appointive officers shall be as follows:

A. ***Secretary.*** The Secretary shall be the executive head of the Central Office and all its branches. He shall engage all employees except as otherwise provided by these Bylaws. He shall supervise and coordinate the activities of all councils, committees and bureaus in regard to their specific assignments and systematize the preparation of all reports of such councils, committees and bureaus.

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B. ***Treasurer.*** The Treasurer shall serve as custodian of all moneys, securities and deeds belonging to the Association which may come into his possession, and he shall hold, invest and disburse same, subject to the direction of the Board of Trustees, and perform such other duties as are prescribed by the Board of Trustees or these Bylaws.

C. ***Editor.*** The Editor shall be the Editor-in-Chief of all official or specialty journals of the Association and, as such, shall exercise full editorial control over such publications, subject only to policies and procedures established by the Board of Trustees or these Bylaws. He shall perform such other duties as are prescribed by the Board of Trustees or these Bylaws.

Chapter IX *Councils*

Section 10. ***Number and Name:*** The councils of this Association shall be nineteen (19) in number:

Council on Constitution and Bylaws
Council on Dental Education
Council on Dental Health
Council on Dental Museum and Registry
Council on Dental Research
Council on Dental Therapeutics
Council on Dental Trade and Laboratory Relations
Council on Federal Government Dental Corps
Council on History
Council on Hospital Dental Service
Council on Insurance
Council on International Relations
Council on Journalism
Council on Legislation
Council on Membership
Council of the National Board of Dental Examiners
Council on Relief
Council on Scientific Session
Judicial Council

Section 20. ***Members, Nominations and Elections.***

A. All councils, except as otherwise provided for in these Bylaws, shall be composed of five (5) members. Nominations for all councils shall be made by the Board of Trustees. Additional nominations may be made by the House of Delegates unless otherwise provided for in these ByLaws. They shall be elected by the House of Delegates in accordance with Chapter XII, Section 10.

B. ***Council on Dental Education.*** The Council on Dental Education shall be composed of nine (9) members, nominated and elected as follows:

a. ***Nomination.***

(1) Three (3) members shall be nominated by the Board of Trustees from the active or life members of this Association, no one of whom shall be a member of a faculty of a school of dentistry or a member of a state board of dental examiners

(2) Three (3) members shall be nominated by the American Association of Dental Examiners from the membership of that body, no one of whom shall be a member of a faculty of a school of dentistry.

(3) Three (3) members shall be nominated by the American Association of Dental Schools from its membership. These members shall hold positions of professorial rank in dental schools accredited by this Association and shall not be members of any state board of dental examiners.

b. ***Election.*** All members of the council shall be elected by the House of Delegates from nominees selected as provided in this section.

C. ***Council of the National Board of Dental Examiners.*** The Council of the National Board of Dental Examiners shall be composed of nine (9) members nominated and elected as follows:

a. ***Nomination.***

(1) Three (3) members shall be nominated by the Board of Trustees from the active or life members of this Association, no one of whom shall be a member of a faculty of a school of dentistry or a member of a state board of dental examiners.

(2) Three (3) members shall be nominated by the American Association of Dental Examiners from the membership of that body, no one of whom shall be a member of a faculty of a school of dentistry.

(3) Three (3) members shall be nominated by the American Association of Dental Schools from its membership. These members shall hold positions of professorial rank in dental schools accredited by this Association and shall not be members of any state board of dental examiners.

b. ***Election.*** All members of the Council of the National Board of Dental Examiners shall be elected by the House of Delegates from nominees selected as provided in this section.

c. ***Members of the National Board of Dental Examiners.*** The members of the National Board of Dental Examiners shall be the members of the Council of National Board of Dental Examiners, together with such additional members selected by the Council of National Board of Dental Examiners and elected by the House of Delegates, in accordance with rules and regulations adopted by the Council and approved by the House of Delegates.

Section 30. *Consultants, Advisers and Additional Personnel:*

A. ***Consultants and Advisers.*** In addition to individual council membership as previously provided, each council shall have the authority to appoint or employ consultants, advisers and additional personnel in conformity with rules and regulations established by the Board of Trustees.

B. ***Secretaries.*** Secretaries of councils, in the event they are employees, shall be employed by the secretary of the Association from nominations submitted by the councils concerned.

Section 40. *Chairmen:* One member of each council shall be appointed annually by the Board of Trustees to serve as chairman. The chairman of the Council on Dental Education and of the Council of the National Board of Dental Examiners shall be appointed from nominations submitted by their respective bodies.

Section 50. *Eligibility:*

A. All members of councils must be members in good standing of this Association at the time of their nomination and election and must maintain such membership during their term of office.

B. When a member of either the Council on Dental Education or the Council of National Board of Dental Examiners shall cease to be a member of the organization which nominated him, his membership on either such council shall terminate, and the President of the Association shall declare such position vacant.

Section 60. *Term of Office:* The term of office for each member of all councils shall be three (3) years, and at the end of each term of office a successor shall be elected for a term of three (3) years. At the first election after the adoption of these Bylaws there shall be elected to the Council on Dental Education and to the Council of National Board of Dental Examiners, from each of the three (3) classifications in such councils, one (1) member for one (1) year, one (1) member for two (2) years and one (1) member for three (3) years.

At the first election after the adoption of these Bylaws, there shall be elected to the Coun-

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cil on Dental Health, three (3) members for one (1) year, three (3) members for two (2) years, three (3) members for three (3) years.

At the first election after the adoption of these Bylaws, there shall be elected to all councils, except the Council on Dental Education, the Council on Dental Health and the Council of National Board of Dental Examiners, one (1) member for one (1) year, two (2) members for two (2) years and two (2) members for three (3) years.

Section 70. ***Vacancy:*** In the event of a vacancy in the membership of any council, the President shall appoint a member of the Association possessing the same qualifications as to eligibility as the previous member, to fill such vacancy until a successor is elected by the next House of Delegates for the remainder of the unexpired term.

Section 80. ***Quorum:*** A majority of the total number of members of any council shall constitute a quorum for the transaction of business.

Section 90. ***Expenses:*** The Association shall pay the expenses of each council, provided that such expenses are incurred in conformity with rules and regulations established by the Board of Trustees, and provided further that the council budget as approved by the House of Delegates is sufficient to cover the payment of such expenses.

Section 100. ***Duties:***

A. ***Common Duties of All Councils.***

a. ***Proposed Budget.*** Each council shall submit in writing to the Board of Trustees a proposed itemized budget of anticipated expenditures for the ensuing fiscal year. Such budget shall be submitted at least forty-five (45) days in advance of the final regular session of the Board of Trustees as scheduled in Chapter VI, Section 100, of these Bylaws.

b. ***Annual Report.*** Each council shall submit, through the Secretary's office, an annual written report to the House of Delegates and a copy thereof to the Board of Trustees.

B. ***The Council on Constitution and Bylaws.*** The Council on Constitution and Bylaws shall examine the articles of the Constitution and Bylaws with a view to suggesting changes that will advance the administrative efficiency of this Association. This Council shall consider all proposed amendments and report its recommendations to the House of Delegates and the Board of Trustees.

C. ***Council on Dental Education.*** The Council on Dental Education shall act as the agency of this Association in the investigation of dental education and associated subjects and make recommendations for means and methods of improving same to the Board of Trustees for action in conformity with policies adopted by the House of Delegates. The Council on Dental Education shall have authority on behalf of this Association to accredit dental schools and schools in related fields of dental education, to approve internships, residencies and dental specialty boards, in accordance with requirements and standards approved by the House of Delegates.

D. ***Council on Dental Health.*** The Council on Dental Health shall be composed of nine (9) members and its duties shall be:

a. To conduct a study of the oral health needs of the public and of plans to meet such needs; to formulate programs for promoting oral health which shall be submitted to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

b. To assist constituent and component societies in the development of oral health policies and programs within their jurisdiction.

c. To establish and maintain relations with other agencies interested in programs for the improvement of oral health.

d. To maintain a comprehensive program of oral health educational services.

E. ***Council on Dental Museum and Registry.*** The duties of the Council on Dental Museum and Registry shall be:

a. To secure pathological and historical materials for museum exhibits for educational and training purposes and to disseminate information thereon.

b. To maintain a registry of oral and pathological specimen case histories.

F. ***Council on Dental Research.*** The duties of the Council on Dental Research shall be:

a. To formulate plans for encouraging, establishing and supporting programs of research in all fields pertaining to dental materials used in reparative and reconstructive operations in the oral cavity and to submit such plans to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

b. To investigate the causes of diseases and abnormalities of the oral cavity.

G. ***Council on Dental Therapeutics.*** The duties of the Council on Dental Therapeutics shall be:

a. To study, evaluate and disseminate information with regard to dental therapeutic agents, their adjuncts and dental cosmetic agents which are offered to the public or to the profession.

b. To formulate plans for encouraging, establishing and supporting programs of research in the field of dental therapeutics and to submit such plans to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

H. ***Council on Dental Trade and Laboratory Relations.*** The duties of the Council on Dental Trade and Laboratory Relations shall be:

a. To encourage and develop satisfactory relations with the various organizations representing the dental trade and dental laboratories.

b. To formulate plans for establishing and maintaining the greatest efficiency of the dental trade and dental laboratories in their relation to the dental profession and to submit such plans to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

I. ***Council on Federal Government Dental Corps.*** The duties of the Council on Federal Government Dental Corps shall be:

a. To review and study the specific problems of the various dental corps.

b. To formulate plans that will increase the efficiency of said corps and to submit such plans to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

Membership of the Council shall consist of members who are not in the employ or service of the federal government, and at least three members shall be veterans.

Explanatory Note: The term "federal government dental corps," as used in this Constitution and Bylaws, shall mean the Army Dental Corps, the Naval Dental Corps, the dental officers in the United States Public Health Service and the dental officers in the Veterans Administration.

J. ***Council on History.*** The duties of the Council on History shall be to study, collect and prepare for publication material of historical interest to the dental profession.

K. ***Council on Hospital Dental Service.*** The duties of the Council on Hospital Dental Service shall be:

a. To examine dental departments of hospitals and issue certificates of approval in the name of the American Dental Association to hospitals having dental departments which meet basic standards approved by the House of Delegates.

b. To examine and recommend for approval or non-approval by the Council on Dental Education hospital dental intern and residency programs, in accordance with standards approved by the House of Delegates.

c. To act as the agency for the Association in investigation and improvement of dental facilities in hospitals.

L. ***Council on Insurance.*** The duties of the Council on Insurance shall be to consider the problem of insuring the members of this Association for their protection in any manner

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whatsoever and make recommendations regarding such plans to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

M. ***Council on International Relations.*** The duties of the Council on International Relations shall be to cooperate with dentists and dental groups in countries other than the United States for the purpose of exchanging dental knowledge and information in conformity with policies adopted by the House of Delegates.

N. ***Council on Journalism.*** The duties of the Council on Journalism shall be to sponsor annual conferences on dental journalism and to develop standard methods and programs for the advancement of dental journalism in accordance with the rules and regulations adopted by the House of Delegates. The Editor of *The Journal of the American Dental Association* shall be a member *ex officio.*

O. ***Council on Legislation.*** The duties of the Council on Legislation shall be:

a. To protect and further the interests of the public and the dental profession in matters of patents, legislation and regulations and to make recommendations of plans and methods to the Board of Trustees in conformity with policies approved by the House of Delegates.

b. To disseminate information which will assist the constituent and component societies in their problems involving the enactment and enforcement of legislation affecting the dental health of the public or the practice of dentistry.

P. ***Council on Membership.*** The duties of the Council on Membership shall be:

a. To conduct a study of membership problems and formulate plans for maintaining and increasing the membership of this Association. Such plans shall be submitted to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

b. To review applications for active membership in this Association from applicants practicing in territories or dependencies of the United States or in federal government dental corps in which no constituent society is chartered, and to make recommendations regarding same to the Board of Trustees.

c. To review all applications for affiliate membership in the Association and make recommendations regarding same to the House of Delegates

Q. ***Council of National Board of Dental Examiners.*** The duties of the Council of National Board of Dental Examiners shall be to act as the Executive Council of the National Board of Dental Examiners, whose duties shall be:

a. To provide and conduct examinations, exclusive of clinical demonstrations, in the art and science of dentistry for the purpose of determining the qualifications of persons who desire to enter dental practice in any state, district, territory or dependency of the United States. Licensure to practice is subject to the laws of the states, districts, territories or dependencies, and the right to conduct all practical examinations is reserved to the individual boards of dental examiners in such states, districts, territories or dependencies.

b. To make such rules and regulations as may be necessary for the conduct of the previously mentioned examinations and for the issuance of a certificate of qualification to successful candidates. Such certificate may be recognized and accepted by the several boards of dental examiners in lieu of their own examinations.

R. ***Council on Relief.*** The Council on Relief shall formulate plans for increasing the principal of the Relief Fund of this Association and recommend rules and regulations for the granting of financial aid to dentists, their dependents and survivors. It shall submit such plans and recommendations to the Board of Trustees for action in conformity with policies adopted by the House of Delegates.

The members of the Council on Relief shall be Trustees of the American Dental Association Relief Fund.

S. ***Council on Scientific Session.*** The Council on Scientific Session shall serve as the general program committee for the annual scientific session of the Association with full power to approve or disapprove the program of any section as submitted by the officers

in charge, even to the extent of omitting the program of any section in any year. It shall be its duty (1) to determine the number of general meetings held during each scientific session; (2) to prepare a program for each meeting; (3) to co-ordinate the programs of the several sections; (4) to establish rules and regulations for governing section officers in the performance of their duties, subject to approval by the Board of Trustees.

T. ***Judicial Council.*** The duties of the Judicial Council shall be:

a. To consider proposals for amending the Code of Ethics and to make recommendations regarding same to the House of Delegates and the Board of Trustees.

b. To provide advisory opinions regarding the interpretation of the Code of Ethics.

c. To consider appeals from members of the Association under sentence of censure, probation, suspension or expulsion by a constituent society and to hold hearings and render decisions thereon. In such instance, the accused member shall have transmitted to him a written copy of the charges brought against him together with a notice of the time and place of the hearing, such notice to be sent by registered letter addressed to his last known address and mailed not less than thirty days prior to the day set for the hearing. Every decision which shall result in censure, probation, suspension or expulsion of a member shall be reduced to writing and shall contain a copy of the charges made against the accused member, a recital of the facts, the verdict rendered and the penalty imposed. Within ten days of the day on which the decision is rendered a copy thereof shall be sent by registered mail to the last known address of each of the following parties: the accused member; the secretary of the component society to which he belongs, if any; the secretary of the constituent society to which he belongs, if any; the chairman of the Judicial Council of this Association and the Secretary of this Association.

d. To hold a hearing and render a decision in every case in which a member of this Association who is not a member of a constituent society is charged (1) with having been found guilty of a felony, (2) with having been found guilty of violating the dental practice act of a territory, dependency or country, or (3) with violating these Bylaws or the Code of Ethics of this Association.

Section 110. ***Privilege.*** Chairmen and members of Councils who are not members of the House of Delegates shall have the right to present their reports in person to the House of Delegates and to participate in the debate thereon but shall not have the right to vote.

Chapter X *Special Committees*

Section 10. Special committees of this Association may be created either at any session of the House of Delegates, or when the House is not in session by vote of the Board of Trustees, to serve until adjournment sine die of the next annual session of the House of Delegates for the purpose of performing any duty not otherwise assigned by these Bylaws. The authority for appointing the members of a special committee shall be set forth in the resolution creating such committee.

Section 20. ***Privilege.*** Chairmen and members of special committees who are not members of the House of Delegates shall have the right to present their reports in person to the House of Delegates and to participate in the debate thereon but shall not have the right to vote.

Chapter XI *Bureaus*

Section 10. ***Number and Name.*** There shall be four (4) bureaus of this Association:

A. Bureau of Economic Statistics and Research

B. Bureau of Public Information

C. Bureau of Library and Indexing Service

D. Bureau of Chemistry

Section 20. ***Personnel:*** The personnel of all bureaus shall be employees of the Association.

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Section 30. ***Advisory Committees:*** Each bureau shall have an advisory committee consisting of five (5) members in good standing of this Association. Nominations for these advisory committees shall be made by the Board of Trustees and additional nominations may be made by the House of Delegates. Members of advisory committees shall be elected by the House of Delegates, in accordance with Chapter XII, Section 10, to serve for a term of three (3) years each, except that at the first election after the adoption of this section of the Bylaws one (1) member shall be elected to each committee for one (1) year, two (2) members for two (2) years and two (2) members for three (3) years. At the end of their term of office successors shall be elected for a term of three (3) years. One (1) member of each committee shall be appointed annually by the Board of Trustees to serve as chairman for the ensuing year. At least two members of the advisory committee to the Bureau of Chemistry shall be selected from among the members of the Council on Dental Therapeutics. It shall be the duty of each advisory committee to review the activities and the plans of its respective bureau at least once each year and to advise the Secretary of the Association and the Board of Trustees regarding same.

Section 40. ***Duties:*** Specific duties of each bureau shall be assigned by the Board of Trustees through the Secretary of the Association under whose jurisdiction each shall operate. The general duties of each bureau shall be:

A. ***Bureau of Economic Statistics and Research.*** To collect, compile, develop, analyze and disseminate data and statistics that concern the dental profession.

B. ***Bureau of Public Information.*** To develop and maintain a public relations program for this Association, including the dissemination of information and publicity concerning activities of this Association.

C. ***Bureau of Library and Indexing Service.***

a. To maintain and develop the library service of the Association.
b. To prepare and cause to be published an index of the dental periodical literature.
c. To develop uniform standards of nomenclature in the field of dental science.
d. To maintain the archives of the Association.

D. ***Bureau of Chemistry.***

a. To maintain a chemical laboratory.
b. To assist the Council on Dental Therapeutics.
c. To develop an investigative program and to cooperate with other agencies in related research.

Chapter XII *Elections*

Section 10. Elective officers, members of the Board of Trustees and members of councils and committees shall be elected by the House of Delegates except as otherwise provided in these Bylaws. Voting shall be by ballot, and the Secretary shall provide facilities for voting on the morning of the day of the last meeting. The polls shall be open for at least three (3) hours and shall be closed prior to the opening of the last meeting of the House of Delegates. The candidates receiving the largest number of votes shall be considered elected.

Chapter XIII *Scientific Sessions*

Section 10. ***Object:*** The scientific session of this Association is established to foster the presentation and discussion of subjects pertaining to the science and art of dentistry.

Section 20. ***Time and Place:*** One (1) scientific session shall be held annually at a place selected by the House of Delegates from recommendations presented by the Board of Trustees. Such selection shall be made at least one (1) year but not more than three (3) years in advance. The selected time and place for holding any session may be changed by three-fourths (¾) affirmative vote of the members of the Board of Trustees, and such change shall be made at least sixty (60) days prior to the time selected for the session.

Specific dates for holding the scientific session shall be determined each year by the Board of Trustees at least six (6) months in advance.

Section 30. ***Management and General Arrangements:*** The Board of Trustees shall provide for the management of, and make all arrangements for, each scientific session not otherwise provided for in these Bylaws.

Section 40. ***General Meetings:*** There shall be at least one (1) and not more than three (3) general meetings at each scientific session. The number shall be determined by the Council on Scientific Session.

Section 50. ***Section Meetings:***

A. ***Name.*** Each scientific session shall consist of the general meetings and the following section meetings, unless omitted by the Council on Scientific Session:

a. Clinics
b. Dental health education exhibits
c. Full denture prosthesis
d. Hospital dental service
e. Operative dentistry
f. Oral surgery
g. Orthodontics
h. Partial denture prosthesis
i. Pedodontics, oral hygiene
j. Periodontia
k. Practice management
l. Research
m. Roentgenology
n. Scientific exhibits

B. ***Officers:*** The officers of each section shall be a chairman, vice-chairman and a secretary appointed annually by the Council on Scientific Session subject to the approval of the Board of Trustees. It shall be their duty to prepare and present a program for their respective sections in accordance with rules and regulations established by the Council on Scientific Session.

Section 60. ***Trade and Laboratory Exhibits:*** Products of the dental trade and laboratories and other products may be exhibited at each scientific session under the direction of the Board of Trustees and in accordance with rules and regulations established by that body.

Section 70. ***Admission:*** Admission to meetings of the scientific sessions shall be limited to members of this Association who are in good standing and to others invited in accordance with rules and regulations established by the Board of Trustees.

Chapter XIV *Publications*

Section 10. ***Official Journal:***

A. ***Title:*** This Association shall publish or cause to be published an official journal under the title of *The Journal of the American Dental Association,* hereinafter referred to as *The Journal.*

B. ***Object:*** The object of *The Journal* shall be to report, chronicle and evaluate activities of scientific and professional interest to members of the dental profession.

C. ***Frequency of Issue and Subscription Rate:*** The frequency of issue and the subscription rate of *The Journal* shall be determined by the Board of Trustees.

D. ***Editor:*** The Editor of the Association shall be editor of *The Journal.*

Section 20. ***Specialty Journals:*** This Association may publish or cause to be published journals in the field of the dental specialties under the editorial supervision of the Editor of the Association and subject to the direction and regulations of the Board of Trustees.

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Section 30. *Official Transactions:* The official transactions of the House of Delegates and the Board of Trustees and the reports of officers, councils and committees shall be published under the direction of the Secretary

Section 40. *Index of the Dental Periodical Literature:* This Association shall publish or cause to be published an *Index of the Dental Periodical Literature* under the supervision of the Bureau of Library and Indexing Service.

Section 50. *Accepted Dental Remedies:* This Association shall publish or cause to be published *Accepted Dental Remedies* under the supervision of the Council on Dental Therapeutics.

Chapter XV *Finances*

Section 10. *Membership Dues:*

A. ***Active Members:*** The dues of active members shall be twelve dollars ($12.00) due January 1 of each year.

B. ***Affiliate Members:*** The dues of affiliate members shall be ten dollars ($10.00) due January 1 of each year.

C. ***Student Members:*** The dues of student members shall be three dollars ($3.00) due January 1 of each year. Student membership terminates on December 31 after graduation or on completion of an internship, residency or graduate work as provided in Chapter I, Section 20 D. Dues for the first succeeding calendar year may be continued at the same rate provided the student member is accepted as an active member of a constituent or component society.

D. ***Life and Honorary Members:*** Life and honorary members shall be exempt from payment of dues.

E. ***Associate Members:*** The dues of associate members shall be ten dollars ($10.00) due January 1 of each year.

F. All members, except life and honorary members, elected after July 1, shall pay one-half (½) of the current year's dues.

Section 20. *Fiscal Year:* The fiscal year of this Association shall begin on January 1 of each calendar year and end on December 31 of the same year

Section 30. *General Fund:* The General Fund shall consist of all monies received other than those specifically allocated to other funds by these Bylaws. This fund shall be used for defraying all expenses incurred by this Association not otherwise provided for in these Bylaws.

Section 40. *Relief Fund:*

A. ***Purpose:*** This Association shall establish the American Dental Association Relief Fund, fully detached from any other fund of the Association for the purpose of granting financial aid to dentists, their dependents and survivors in accordance with any indenture of trust governing the Relief Fund and in accordance with rules and regulations formulated by the Council on Relief and approved by the Board of Trustees.

B. ***Fund.*** This fund shall be held in the name, The American Dental Association Relief Fund, and shall be derived from cash, securities and other property transferred or appropriated to it by the Board of Trustees, contributions, bequests and earnings thereon.

Section 50. *Research Fund:*

A. ***Purpose:*** This Association shall establish a Research Fund for the purpose of promoting and advancing dental research.

B. ***Principal:*** The principal of this Fund shall be derived from direct contributions and earnings.

C. ***Disbursements:*** Disbursements may be made from the principal to further the purpose of the Fund.

Chapter XVI *Indemnification of Officers and Trustees*

The Association shall indemnify and hold harmless each trustee and each officer now or hereafter serving the Association from and against any and all claims and liabilities to which he may be or become subject by reason of his now or hereafter being or having heretofore been a trustee and/or officer of the Association and/or by reason of his alleged acts or omissions as a trustee and/or officer as aforesaid, and shall reimburse each trustee and each officer of the Association for all legal and other expenses reasonably incurred by him in connection with defending against any such claims or liabilities, provided, however, that no trustee or officer shall be indemnified against or be reimbursed for any expenses incurred in defending against any claim or liability arising out of his own negligence or willful misconduct. The foregoing rights of trustees and officers shall not be exclusive of other rights to which they may be entitled lawfully.

Chapter XVII *Amendments*

An amendment to these Bylaws effecting a change in the dues of active members shall not be acted upon at the annual session at which introduced except by unanimous consent. Otherwise, these Bylaws may be amended at any session of the House of Delegates by a two-thirds (⅔) majority vote of the members present and voting, provided the proposed amendments shall have been presented in writing at a previous session or a previous meeting of same session.

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ARTICLES OF INCORPORATION*

1. ***Name.*** The name of this corporation is AMERICAN DENTAL ASSOCIATION.

2. ***Period of Duration.*** The duration of the corporation is perpetual.

3. ***Purpose and Object.*** The purpose and object of this corporation is to encourage the improvement of the health of the public and to promote the art and science of dentistry.

4. ***Office.*** The principal office of the corporation shall be in the City of Chicago, Cook County, Illinois.

5. ***Bylaws.*** The bylaws of the corporation shall be divided into two categories designated, respectively, "Constitution" and "Bylaws," and each category shall be amendable from time to time in the manner and by the method therein set forth, but in case of any conflict between the Constitution and the Bylaws the provisions of the Constitution shall control.

6. ***Membership.*** The qualifications, the method of election, designation or selection, the privileges and obligations, and the voting rights, if any, of the various classes of members which are established by the Constitution and Bylaws of the corporation from time to time shall be set forth in and governed by such Constitution and Bylaws.

7. ***Exercise of Corporate Powers.*** Except as otherwise provided by law, the affairs of this corporation shall be governed and the corporate powers of the corporation shall be exercised by a Board of Directors (to be known as the Board of Trustees), House of Delegates, officers, councils, committees, members, agents and employees as set forth in the Constitution and Bylaws and the titles, duties, powers, and method of electing, designating or selecting all of the foregoing shall be as provided therein.

8. ***Voting Rights With Respect to Articles of Incorporation.*** Only those members of the corporation shall have voting rights in respect to amendments to the Articles of Incorporation who shall have a right to vote on amendments to the Constitution of the corporation.

*Revised, October 21, 1948.

PRINCIPLES OF ETHICS
of the American Dental Association

IN GENERAL

Section 1. The following Code of Ethics is prescribed in order that dentists may more clearly understand their responsibilities and obligations to patients, to the community at large, to fellow practitioners and to the profession.

ADVERTISING

Section 2. It is desirable for dentists to endeavor to merit a reputation for good judgment, professional skill and fidelity with fellow practitioners, and the public. This desirable end cannot be forced, for it is the result of time and of excellence of conduct and abilities. Advertising is inconsistent with acceptable professional behavior; and, if used, it not only reflects upon the quality of the individual who employs such measures, but also has the far more consequential effect of lowering the entire profession in public esteem.

It is therefore unprofessional to solicit patients. Advertising in any form, whether by individuals, groups or institutions, is in itself evidence of such solicitation.

CARDS, LETTERHEADS AND ANNOUNCEMENTS

Section 3. It is not considered improper to use ordinary simple business cards and letterheads, but information printed thereon should be in good taste and in keeping with the custom of dentists of the community.

The use of the words "specialists" and "specialty" should be avoided. If, however, a dentist limits his practice to one of the traditional specialties of dentistry, it should not be deemed improper to include that information on his professional cards and letterheads. There should be little or no occasion for sending announcements to one's patients. Judicious exceptions may be made in instances in which one changes his place of practice, or discontinues general practice to engage in a specialty or returns to practice after protracted absence. Such announcements should be simple in form and in good taste and, if sent to other than fellow practitioners, should be mailed to patients of record only.

DIRECTORIES

Section 4. The manner in which dentists permit their names to appear in community directories, while of proper concern to the whole profession, should be guided by the expressed wishes of the dentists of the community. It would obviously be improper to permit one's name to be listed in a community directory that does not include all, or practically all, the names of dentists of that community. The use of a printer's type, or a color or any other device that permits one's name to stand out from others is to be avoided. If one limits his practice to one of the traditional specialties, and the dentists of the community, through their appropriate district societies are agreeable to the inclusion of that information in the directory, such arrangement should not be deemed a violation.

OFFICE DOOR LETTERING AND SIGNS

Section 5. The use of lettering and signs that forcefully attract attention is not good professional practice, for it reduces respect for the user, and lowers public respect for the profession. It is recognized that requirements as to door lettering and the use of window lettering and signs, when permissible, must vary in rural communities and neighborhood districts as compared with office buildings.

Questions arising should be the subject of code interpretation and rulings of appropriate com-

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mittees of the district societies in keeping with practical considerations and continued efforts to maintain the profession on a high plane of public respect. Information afforded should be confined to the name or names of the dentist or dentists, the word "dentist" or "dentists" or "dentistry" and, if desirable, the office hours. In those instances in which the practice is limited, such information may be appropriately afforded.

SPLIT FEES, COMMISSIONS AND REBATES

Section 6. It is a violation of sound ethical principles for a dentist to accept part of a fee paid to another dentist or a physician and surgeon for any reason, and if a fee is "split" by two members of the professions, both should be deemed violators. Likewise, acceptance of rebates or commissions offered as an inducement to refer patients to others, including radiographers, pathologic laboratories, drugstores, etc., are violations of good conduct.

PATENTS AND COPYRIGHTS

Section 7. Every one who practices a healing art is heir to a wealth of accumulated knowledge, technics, instruments, and methods of treatment, all of which were contributed from time to time by others to the cause of better health and the profession's warfare against the ravages of disease. It follows that the fruits of our discoveries, labor and skill, in the field of health service, should be likewise contributed to this common pool of knowledge and procedures without extraction of premiums by the discoverer. The procurement of a patent right or a copyright, either in whole or in part, for reasons other than the protection of the public and profession, is not good professional practice.

TOOTH CLEANSERS, THERAPEUTIC AGENTS AND EXCLUSIVE METHODS

Section 8. It is unprofessional for a dentist to prescribe or dispense secret medicines or other secret remedial agents or to manufacture or promote their use in any way.

It is unprofessional to permit one's name to be used to designate toothbrushes, mouth washes, tooth powders, tooth pastes, liquid cleansers, etc.

It is also unprofessional for a dentist to indicate in any way that any remedy, technic, method of treatment or instrument is exclusive to himself, or to a group of which he is a member.

UNJUST CRITICISMS, EMERGENCY SERVICE, CONSULTATION

Section 9. Consultations between dentists leading to prognosis and treatment as well as consultations between dentists and medical practitioners and specialists afford reassurance of sound procedure and better opportunity for favorable results, and are indeed desirable in those instances in which a patient is suffering from consequential illness, or when there may be doubts as to indications for surgery, restorations or method of treatment.

One dentist should not refer disparagingly to the services of another in the presence of patients. Criticism of defective restorations, faulty operations or improper diagnosis or treatment may be unjust because of lack of knowledge of the conditions under which the services or directions were afforded. However, the welfare of the patient is paramount to every other consideration, and should be conserved to the utmost of the practitioner's ability. If he finds indisputable evidence that a patient is suffering from previous faulty treatment, it is his duty to institute correct treatment at once, doing it with as little comment as possible, and in such a manner as to avoid reflection on his predecessor and the profession. If a dentist is consulted in an emergency by the patient of another practitioner who is temporarily absent from his office, or by a patient who is away from home, the duty of a dentist so consulted is to relieve the patient of any immediate disability and then refer the patient back to his regular dentist. To urge or institute a different plan of treatment is unethical, except, however, in those instances

in which it is manifest that a change has occurred, obviously not anticipated by the patient's regular dentist.

When a dentist is called in consultation by a fellow practitioner, he should hold the discussion in the consultation as confidential, and under no circumstances should he accept the case without the consent of the dentist who has been attending it or until he has been assured that any differences concerning the patient's obligation to the previous dentist have been satisfactorily adjusted.

GROUPS, CLINICS AND CONTRACTS

Section 10. The requirements of good professional practice for groups and clinics are precisely as for individuals. Members of groups or those participating in clinic service are not relieved of any ethical responsibility that pertains to individuals. The use of the name "clinic" or "institute" or any other similar title that may suggest a public or semipublic activity to designate what is in fact an individual or a group private practice is misleading, and therefore unethical.

It is unprofessional for a dentist to enter into a contract which imposes or invites conditions that make it difficult or impossible to deal fairly with the public or one's fellow practitioners.

NOTE: Whenever there arises between members of the American Dental Association a grave difference of opinion regarding professional conduct or questions of an ethical nature which cannot be adjusted without assistance, the dispute should be referred for consideration and settlement as follows:

1. To a committee of impartial dentists, preferably the Committee on Ethics or a similar committee of the local component society.

2. Should the verdict be unsatisfactory to either party, appeal may be taken to a similar committee of the state or constituent society of which the component society is a part.

3. Should the verdict still be unsatisfactory to either party, appeal may be made for settlement to the Judicial Council and ultimately to the House of the Delegates of the American Dental Association.

4. When differences arise between members of their respective local societies or official units thereof, and such differences cannot be adjusted within the society, the matter should be referred first to the state society and thereafter, if need be, to the Judicial Council and ultimately to the House of Delegates of the American Dental Association.

5. State and district societies are urged to establish codes of ethics not inconsistent with that of the parent association and, in addition, to determine interpretations, particularly with respect to those parts of the parent association's code purposely left to component societies, designed to afford more precise regulations.

The Judicial Council was created to assist officers and committees of state and district societies in discharging responsibilities incidental to code creation, management and interpretation.

CONCLUSION

The foregoing statements are intended to express, in a general way, the responsibilities of dentists to the public, to their patients, to the profession, and to practitioners of dentistry. It is not anticipated that these cover the whole field of ethics for members of the profession. There are many obligations assumed by those who choose dentistry as their life's work, in addition to those included in the foregoing statements. To know the answers to most questions not presented in this code, we need but to be guided by the Christian rule to do unto others as we would have others do unto us.

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REPORTS OF COUNCILS

COUNCIL ON DENTAL RESEARCH

LIST OF CERTIFIED DENTAL MATERIALS

REVISED TO NOVEMBER 1, 1948

BECAUSE there has been some confusion regarding certified dental materials, the Council on Dental Research presents this summary to clarify the operation of its certification plan.

The first fundamental item in this plan is the existence of official American Dental Association Specifications for Dental Materials. These specifications are the outcome of research by the American Dental Association research fellowship at the National Bureau of Standards, correlated with the clinical experience of members of the Association.

As the second step in the operation of the plan, the manufacturers are invited to certify to the Council on Dental Research that their products comply with the specifications. It would be manifestly impossible for the Council (through the American Dental Association research fellowship at the National Bureau of Standards) to test every lot of every certified material. For this reason, the Council has required that the manufacturer, on certifying a product, not only must guarantee that this product meets specification requirements but also must furnish evidence that he maintains a testing program adequate to insure continual compliance of the product.

On receipt of a certification for a new product with all required data, the Council procures a random sample through regular trade channels, usually by asking a dentist to act as its agent. This sample is tested for compliance with all specification requirements. Only when the certification is complete and in proper form and the sample has passed all specification tests does the Council accept the manufacturer's certification. The name of the product is then added to the list of certified dental materials.

This, however, is not the complete story. The continuation of any product on the list of certified dental materials is contingent on its maintenance at specification quality. Surveys of all products on the list are made by the American Dental Association research fellowship at the Council's direction. These surveys are made on samples procured on the open market. Whenever a material fails to comply with the specification requirements, it is removed from the list and the manufacturer is notified that his certification of the product is no longer acceptable. Thus, although the Council cannot test the entire production of dental materials, its certification plan calls for continuous testing by the manufacturer and check tests by the fellowship so that a constantly high level of quality of the products on the list will be maintained. Revisions of the list appear in THE JOURNAL from time to time.

Lately there have appeared through the mail some advertisements for amal-

gam alloys, mercuries, zinc phosphate cements and acrylic resins with statements that the manufacturer guarantees them to comply with the specifications of the American Dental Association. An examination of the list of certified dental materials shows that some of the materials that have been so advertised have not been certified by their manufacturers to the Council on Dental Research. The certification program is financed jointly by Federal and American Dental Association funds, and no charge whatsoever is made to the manufacturer. If a manufacturer is regularly testing his material, then the only expense he will have in certifying the material to the Council is the cost of the three cent stamp required for mailing the certificate and data. When a dentist sees a statement such as, "Every batch of this alloy is carefully tested before being released for shipment to be sure that it fully meets A.D.A. specifications," he should be certain to check the list of certified dental materials to see if the product appears there.

In the purchase of certified material for use in dental practice, this list should be used as a buyer's guide. In addition, the package of material received should be checked for its exact name as given in the list and for a statement thereon guaranteeing compliance with the specification. The Council should be notified of any discrepancies.

Certified Amalgam Alloys (A.D.A. Specification No. 1)

Alloy	*Manufacturer or Distributor*
Accurate Metalloy (filings)	The L. D. Caulk Co.
Ackerman (filings)	Ackerman Dental Mfg. Co.
Argentum "A" cut; fine cut; medium cut; shavings	Hammond Dental Mfg. Co.
Aristaloy	Baker and Co., Inc.
Banner (filings)	Goldsmith Bros. Smelting & Refining Co.
Blue Diamond (filings)	Reliance Dental Mfg. Co.
Certified	Lee S. Smith & Son Mfg. Co.
Cresilver	Crescent Dental Mfg. Co.
Dee (filings)	Dee Division of Handy and Harman
Diamond Edge	Young-Baker & Co.
Excel	Daniels Dental Alloy Co.
Fellowship; New Fellowship	Dental Protective Supply Co.
Fleck's	Mizzy, Inc.
Garfield's	Garfield Smelting and Refining Co.
Gold Bond	Jefferson Laboratories
Lustraloy Regular; Cut T	Pfingst & Co.
Minimax (filings) 173; 177; 178; 183; White Gold & Platinum; (shavings) 177; 178	The Minimax Co.
Mission No. 5; No. 5 "A" Cut; No. 6	Henry F. Bruce Co.
Modeloy (quick setting filings)	Crescent Dental Mfg. Co.
Mynol Improved	Mynol Chemical Co.
New Deal	Miller Dental Co.
Odontographic "Improved" (filings)	Odontographic Mfg. Co.
Pearlol	Wildberg Bros. Smelting & Refining Co.
Precision	Precision Bur Co.
Research Oralloy	Precious Metals Research Works, Inc.
Royal Special First Setting; Super First Setting	Garhart Dental Specialty Co.
Silver Crown Fast; Medium; Slow	General Refineries, Inc.
Silverloy (filings); (shavings)	Crescent Dental Mfg. Co.

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Speyer	Speyer Smelting and Refining Co.
S-C Medium (filings)	Stratford-Cookson Co.
S-R	Lee S. Smith & Son Mfg. Co.
Standard	Standard Dental Products Co.
Stratco	Edward P. Stratt
True Dentalloy (filings); (cut "A")	The S. S. White Dental Mfg. Co.
Twentieth Century Regular; Special; Fine cut alloy	The L. D. Caulk Co.
Uniform	Henry Nelms & Son
Vertex	Vertex Dental Products Co.
White Beauty	Lang Dental Mfg. Co.

Certified Inlay Casting Investments (A.D.A. Specification No. 2)

Investment	*Manufacturer or Distributor*
Beauty Cast	Whip-Mix Corp., Inc.
Kerr Cristobalite-Inlay	Kerr Dental Mfg. Co.
Ransom and Randolph Gray	The Ransom & Randolph Co.
Security Improved Inlay	The Cleveland Dental Mfg. Co.
Steele's-Super	The Ransom & Randolph Co.

Certified Impression Compounds (A.D.A. Specification No. 3)

Compound	*Type*	*Manufacturer or Distributor*
Certified	I	Lee S. Smith & Son Mfg. Co.
Dresch	I	The Ransom & Randolph Co.
Exact	I	The S. S. White Dental Mfg. Co.
Kerr Perfection; No. 2 Soft Green; Gray	I	Kerr Dental Mfg. Co.
Mizzy—Low Heat	I	Mizzy, Inc.
S. S. White—Black—Tray	II	The S. S. White Dental Mfg. Co.

Certified Inlay Casting Waxes (A.D.A. Specification No. 4)

Wax	*Manufacturer or Distributor*
Caulk-Blue	The L. D. Caulk Co.
Kerr-Blue—Hard	Kerr Dental Mfg. Co.
Security	The Cleveland Dental Mfg. Co.
Sterling	Baker & Co., Inc.
Taggart's-Blue	Mizzy, Inc.

Certified Inlay Casting Gold Alloys (A.D.A. Specification No. 5)
Type A, Soft

Alloy	*Manufacturer or Distributor*
Aderer-A-Soft	Julius Aderer, Inc.
Baker Inlay Soft	Baker & Co., Inc.
Bruce "A"	Henry F. Bruce Co.
Chilcast No. 1	Vernon-Benshoff Co.
Coe 1	Coe Laboratories, Inc.
Crown Inlay No. 2 Soft; K	General Refineries, Inc.
Decone	Dee Division of Handy and Harman
GB Inlay No. 1 Soft	Goldsmith Bros. Smelting & Refining Co.
Jelenko Special Inlay	J. F. Jelenko & Co., Inc.
Krause Soft Inlay	Krause Gold Refinery
Ney-Oro A	The J. M. Ney Co.
Research A	Precious Metals Research Works, Inc.

Spyco Soft	Spyco Smelting & Refining Co.
S. S. White No. 2; 900 Soft; 940 Very Soft	The S. S. White Dental Mfg. Co.
Stern S	I. Stern & Co., Inc.
Wildberg A-2	Wildberg Bros. Smelting & Refining Co.
Wilkinson 2S	Wilkinson Co.
Williams Inlay 3; Will-Cast 22	The Williams Gold Refining Co., Inc.

Type B, Medium

Alloy	*Manufacturer or Distributor*
Aderer-B-Medium	Julius Aderer, Inc.
Baker Inlay Medium	Baker & Co., Inc.
Bruce "O"	Henry F. Bruce Co.
Chilcast M; 1M; 2M	Vernon-Benshoff Co.
Coe 2	Coe Laboratories, Inc.
Crown Inlay No. 1 Hard; Knapp No. 2; T	General Refineries, Inc.
Deetwo	Dee Division of Handy and Harman
GB Inlay No. 2 Medium Hard	Goldsmith Bros. Smelting & Refining Co.
Jelenko Modulay; Platincast	J. F. Jelenko & Co., Inc.
Krause Hard Inlay	Krause Gold Refinery
Nelms E	Henry Nelms & Son
Ney-Oro A-1; A-10	The J. M. Ney Co.
Spyco Inlay; Medium; Tinker one	Spyco Smelting & Refining Co.
S. S. White No. 1; No. 5; No. 820	The S. S. White Dental Mfg. Co.
Stern 1; No. 3290	I. Stern & Co., Inc.
Wildberg "A"; C-2	Wildberg Bros. Smelting & Refining Co.
Wilkinson 8M	Wilkinson Co.
Williams Pioneer; Special Inlay; One "Inlay"	The Williams Gold Refining Co., Inc.

Type C, Hard

Alloy	*Manufacturer or Distributor*
Aderer-C-Hard; "Dressel"	Julius Aderer, Inc.
Baker Hard Inlay	Baker & Co., Inc.
Bruce No. 5	Henry F. Bruce Co.
Chilcast No. 2; No. 2-H	Vernon-Benshoff Co.
Coe 3	Coe Laboratories, Inc.
Crown No. 9; Knapp No. 3; Supreme Inlay; TT	General Refineries, Inc.
Deesix	Dee Division of Handy and Harman
GB Inlay No. 3 Hard	Goldsmith Bros. Smelting & Refining Co.
Jelenko Durocast; Firmilay	J. F. Jelenko & Co., Inc.
Ney-Oro B; B-2; BW	The J. M. Ney Co.
Research No. 5; "Inlay"	Precious Metals Research Works, Inc.
Spyco No. 1-H; Tinker No. 2	Spyco Smelting & Refining Co.
S. S. White No. 8; No. 13; 860 Hard	The S. S. White Dental Mfg. Co.
Stern 2; 3337; 3465; H	I. Stern & Co., Inc.
Wildberg "C"; B	Wildberg Bros. Smelting & Refining Co.
Williams Klondiker; Special "Four"	The Williams Gold Refining Co., Inc.

Certified Dental Mercuries (A.D.A. Specification No. 6)

Mercury	*Manufacturer or Distributor*
Argentum	Hammond Dental Mfg. Co.
Ballard's	Quicksilver Producers Association

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Certified	Lee S. Smith & Son Mfg. Co.
Chemically Pure	The S. S. White Dental Mfg. Co.
Crown	General Refineries, Inc.
Dee	Dee Division of Handy and Harman
Dental	Goldsmith Bros. Smelting & Refining Co.
Dental, C. P.	F. W. Berk & Co., Inc.
Fellowship	Dental Protective Supply Co.
Garfield's	Garfield Smelting and Refining Co.
Garhart's Positively Pure	Garhart Dental Specialty Co.
Krause's Pure	Krause Gold Refineries
Mercury C. P.	Metalsalts Corp.
Minimax	The Minimax Co.
Mission	Henry F. Bruce Co.
Mynol	Mynol Chemical Co.
Ney's C. P.	The J. M. Ney Co.
Odontographic	Odontographic Mfg. Co.
Research	Precious Metals Research Works, Inc.
Spectropure	Baker & Co., Inc.
Twentieth Century	The L. D. Caulk Co.
Williams	The Williams Gold Refining Co., Inc. (Applies to Williams' one pound bottles only, as quarter pound containers are not glass.)

Certified Wrought Gold Wire Alloys (A.D.A. Specification No. 7)

Alloy	*Manufacturer or Distributor*
Aderer No. 1; No. 3; No. 4; No. 20 Clasp	Julius Aderer, Inc.
Baker 21; Q. A.	Baker & Co., Inc.
Crown Hylastic	General Refineries, Inc.
Deepep-Hard	Dee Division of Handy and Harman
GB Extra High Fusing; Medium Fusing; Regular High Fusing	Goldsmith Bros. Smelting & Refining Co.
Jelenko No. 3 Wire; Super Wire	J. F. Jelenko & Co., Inc.
Ney-Oro Elastic No. 4; Neydium 9	The J. M. Ney Co.
Spyco No. 2; No. 4	Spyco Smelting & Refining Co.
S. S. White No. 12; No. 61 Metalba	The S. S. White Dental Mfg. Co.
Stern No. 2657	I. Stern and Co., Inc.
Williams No. 1 Super; No. 2 High Fusing Clasp; No. 3 High Tensile	The Williams Gold Refining Co., Inc.
Vernon-Benshoff Clasp Wire No. 6	Vernon-Benshoff Co.

Certified Zinc Phosphate Cements (A.D.A. Specification No. 8, First Revision)

Cement	*Manufacturer or Distributor*
Ames Z-M	The W. V-B Ames Co.
Bosworth's Zinc	Harry J. Bosworth Co.
Caulk Crown and Bridge; Petroid Improved; Tenacin	The L. D. Caulk Co.
Certicem	Lee S. Smith & Son Mfg. Co.
Fleck's Extraordinary	Mizzy, Inc.
S-C	Stratford-Cookson Co.
Smith's	Lee S. Smith & Son Mfg. Co.
S. S. White Silver Improved; Zinc; Zinc Improved	The S. S. White Dental Mfg. Co.

Certified Silicate Cements (A.D.A. Specification No. 9)

Cement	*Manufacturer or Distributor*
Ames Plastic Porcelain	The W. V-B. Ames Co.
Astralit	Premier Dental Products Co.
Baker Plastic Porcelain	Baker & Co., Inc.
DeTrey's Synthetic Porcelain	The L. D. Caulk Co.
Durodent Enamel	Oskar Schaefer
Smith's Certified Enamel Improved	Lee S. Smith & Son Mfg. Co.
S. S. White Filling Porcelain Improved	The S. S. White Dental Mfg. Co.

Certified Hydrocolloidal Impression Materials—Agar Type (A.D.A. Specification No. 11)

Material	*Manufacturer or Distributor*
Coe-Loid 66	Coe Laboratories, Inc.
Deelastic	Dee Division of Handy and Harman
Dentocoll	The L. D. Caulk Co.
Kerr Hydro-Colloid	Kerr Dental Mfg. Co.
Perfectocoll	Baker & Co., Inc.
Plasticoll	Lee S. Smith & Son Mfg. Co.
Surgident	Surgident, Ltd.

Certified Denture Resins (A.D.A. Specification No. 12)

Material	*Form*	*Manufacturer or Distributor*
Acralite	Clear; pink; powder-liquid	Acralite Co., Inc.
Ac-Ril	Pink; powder-liquid	Ac-Ril Dental Corporation
Acri-Lux	Pink; powder-liquid	Acri-Lux Dental Mfg. Co.
B-B	Clear; pink; powder-liquid	Bell Dental Products Co.
Certified	Clear; pink; powder-liquid	Lee S. Smith & Son Mfg. Co.
Coralite	Pink; powder-liquid	Coralite Dental Products Co.
Crystolex, Regular	Pink; powder-liquid	Kerr Dental Mfg. Co.
Crystolex, Form 102	Pink; powder-liquid	
Densene 33	Clear; pink; powder-liquid	Cosmos Dental Products, Inc.
Denture Acrylic	Clear; pink; powder-liquid	The S. S. White Dental Mfg. Co.
Hygienic	Pink; powder-liquid	The Hygienic Dental Rubber Co.
Justi-Tone	Pink; powder-liquid	H. D. Justi & Son, Inc.
Lang's	Pink; powder-liquid	Lang Dental Mfg. Co.
Loktone	Clear; pink; powder-liquid	Myerson Tooth Corporation
Lucitone	Clear; pink; plastic cake Clear; pink; powder-liquid	The L. D. Caulk Co.
Luxene 44	Pink; plastic cake	Luxene, Inc.
Marvel	Pink; powder-liquid	Marvel Dental Products Co.
Miacryl	Pink; powder-liquid	The Motloid Co., Inc.
Perma Cryl	Pink; powder-liquid	Acri-Lux Dental Mfg. Co.
Premier	Clear; pink; powder-liquid	Premier Dental Products Co.
Opalex "45"	Pink; powder-liquid	The Opalex Co.
Vernonite	Clear; pink; plastic cake Pink; powder-liquid	Vernon-Benshoff Co.
Vitacrilic D, L	Pink; powder-liquid	Fricke Dental Mfg. Co.
Vita-Lite	Clear; pink; powder-liquid	Vita-Lite Products Co.
Vitalon	Pink; powder-liquid	Austenal Laboratories, Inc.

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COUNCIL ON LEGISLATION

EVIDENCE OF NEGLIGENCE IN EXTRACTION AND AFTER-CARE MUST BE PROVED BY EXPERT TESTIMONY

BIERSTEIN vs. Whitman, 62 Atl. 2d 843. Supreme Court of Pennsylvania, decided January 3, 1949.

Summary —Patient consulted a dentist who, after examination, recommended extraction of upper and lower right third molars. Patient consented. Dentist was required to use some force in extracting lower molar, which was large and had hooked roots. After extraction, patient was nervous and breathing heavily. Dentist packed socket with sulfanilamide and instructed patient to use an ice pack on outside of jaw and to wash mouth with solution of salt, baking soda and tincture of iodine mixed in warm water, after reaching home. Patient complied with instructions but the jaw swelled and remained swollen.

Three days after extraction patient returned to dentist's office for examination. Dentist advised continued rinsing of mouth, application of ice packs, use of sedatives and massage with camphorated oil. Two days later (five days after extraction) patient again visited dentist. Swelling was more pronounced, pain was greater and patient had a fever. Dentist called in a physician who examined outside of patient's jaw and told her to continue treatment prescribed by dentist.

On seventh day after extraction patient on advice of own physician entered hospital, remaining therein for ten days. During this period patient's face, neck and upper half of chest were swollen; she was unable to swallow or take food, and pus was oozing from mouth. At an undisclosed time thereafter, but prior to 22 days after extraction, an external incision was made in the neck to drain pus.

On twenty-fourth day after extraction patient's physician ordered diagnostic roentgenograms which revealed a fracture of the condylar process of the mandible about ¾ inch from the formation of joint and about 1¾ inches from socket of extracted tooth. A second roentgenogram made on the forty-eighth day after extraction showed fracture partially united but also disclosed a localized bone abscess in extraction area about ¾ inch in diameter and containing a piece of dead bone or sequestrum. Additional roentgenograms taken on fifty-ninth day after extraction indicated that fracture had united. Abscess was still present but piece of bone had been partially absorbed. On sixty-eighth day after extraction patient was admitted to hospital where section of bone from right side of lower jaw was removed by a surgeon.

Legal Aspects.—Patient sued dentist alleging two acts of negligence: (1) use of unwarranted force in extraction resulting in jaw fracture; (2) lack of care in treating jaw after extraction. Patient introduced evidence designed to prove the foregoing facts but did not put an expert witness on the stand to establish the standard of care, skill and diligence required in the practice of the dental profession at the time and place of the

extraction. Judgment in trial court was for the dentist because judge and jury had no way of determining from evidence whether dentist was or was not negligent. Patient appealed from judgment arguing that a jury of laymen under the facts could make a finding of negligence in this type of action as they may in any other. The Supreme Court of Pennsylvania in affirming the judgment of the trial court (on behalf of dentist) said:

> Laymen cannot be required to decide what amount of force is necessary to extract a tooth under any given set of circumstances. The degree of force to be used is an integral part in the technique of extracting teeth. This professional technique is developed only after study and practice under men of experience. Negligence may not be inferred by laymen because the jaw was found to have been broken. A jaw could be broken even though there was no lack of care or skill by the dentist.

The Court also pointed out that patient had presented no testimony as to the standard of care required in treating patients after extraction and said that the burden of proof is on the patient to show that dentist failed to use reasonable care, skill and diligence.

COUNCIL ON DENTAL THERAPEUTICS

PRACTICAL TECHNICS IN ADMINISTRATION OF LOCAL ANESTHETIC AGENTS: I QUESTIONS AND ANSWERS

Philip M. Northrop, D.D.S., M.S., Ann Arbor, Mich.

This is one in a series of questions and answers papers which are prepared by qualified experts at the request of the Council on Dental Therapeutics. The opinions expressed are those of the author and do not necessarily reflect the opinions of the Council. Part II of this article will be published soon.

Q. . What precautionary measures should the dentist take in preparing the injection site before administering an anesthetic solution?

A. Before insertion of the hypodermic needle into the mucous membrane, the area must be wiped free of saliva and dried with serile gauze. An antiseptic applied to a moist surface has little if any bactericidal value. After the area is dried it should be painted with an antiseptic solution, after which the injection site should not be permitted to become contaminated by the adjacent soft tissues such as the cheek or the tongue.

It is absolutely imperative that only sterile armamentarium be used when making any injection. Especially is this true for deep injections such as the tuberosity or zygomatic block or the inferior dental conduction block, and for injections in the floor of the mouth. If patho-

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genic organisms are carried into these areas, infections of a serious character may occur. The hypodermic needle itself should not be contaminated or touched by the dentist's fingernail, glove or other articles.

Breaks in a sterile technic may occur in another way during administration of an inferior dental and lingual block. The needle is introduced medially to the internal oblique line, and as the syringe is carried toward the opposite side of the mouth the lateral margin of the tongue frequently comes in contact with the side of the needle. The needle is then introduced deeper and deeper into the tissue toward the mandibular sulcus. In this way pathogenic organisms may be introduced into a very vulnerable area. If the operator sees that the injection cannot be made without touching the side of the tongue, an assistant should hold a mirror along the side of the tongue to retract it. If the tongue comes in contact with the needle, it is desirable to remove the needle and use another which is sterile.

Q. In infiltration anesthesia should an attempt be made to carry the hypodermic needle subperiosteally and in contact with the bone, or supraperiosteally (outside of the periosteum)?

A. There is considerable controversy as to which technic is desirable. Those who advocate deposition of the anesthetic solution outside of the periosteum believe that in this technic the anesthetic is carried into the bone by the rich blood supply and that adequate anesthesia is obtained without damage to the periosteum. In my opinion, subperiosteal injection is desirable; in other words an attempt should be made to carry the point of the needle into contact with the bone so that the anesthetic is flooded beneath the periosteum. For dental procedures it is necessary to carry the anesthetic solution into the bone in order to produce satisfactory anesthesia. If the needle is in contact with the bone, there is a greater opportunity for the anesthetic to enter the bone than if it is outside of the periosteal covering.

It is true that such an injection offers an opportunity to force the anesthetic under pressure beneath the periosteum and to strip this tissue from the bone, resulting in pain at the time of the injection and also in prolonged postoperative discomfort. To avoid such injury, it is desirable to use a type of syringe which does not permit excessive pressure. I advocate the use of a Luer lock type of syringe. In the use of such a syringe, the operator develops a delicate touch and is able to deposit the anesthetic very slowly and avoid tearing the periosteum. It might be added that with such a syringe, especially in deep injections such as the tuberosity or inferior dental block, the operator can readily draw back the plunger before injecting the anesthetic solution. This permits him to be sure that he has not penetrated a blood vessel.

Q. Can anesthesia of the maxillary teeth be satisfactorily produced by mere infiltration?

A. Generally speaking, all of the maxillary teeth can be satisfactorily anesthetized by depositing the local anesthetic on the labial and buccal surfaces at the apexes of the teeth. There are, however, certain anatomic variations in both the bone and the nerve supply which may not always permit complete anesthesia by this method.

The maxillary central incisors cannot always be anesthetized by mere infiltration. They probably are supplied by the nasopalatine nerve, which it is thought often sends a branch or branches from within the anterior palatine canal to these teeth. For this reason, if one has difficulty in obtaining anesthesia it is wise and frequently necessary to carry the needle to a point in the anterior palatine canal about opposite the apex of the central incisor, making sure that the needle point is engaged in the wall of the canal.

The margins of the nasopalatine or incisive canal are lined with epithelium leaving a tube-like pathway in the center which actually leads from the incisive papilla into the nasal cavity on each side. The nasopalatine nerve or its probable branches to the incisor teeth lie within the mucous membrane. If the needle point is not engaged in the mucous membrane the anesthetic will not penetrate it and hence will not produce anesthesia. Under such circumstances the operator feels no resistance to the plunger, whereas the patient feels the solution entering the nose and draining back into the throat.

In making this injection, it is to be remembered that the site of injection is extremely sensitive. The incisive papilla, which lies directly over this canal and at the midline between the two central incisors, is richly supplied with nerve tissue. Along each side, that is, on the lateral margins of the incisive papilla, is a small opening which leads directly into the anterior palatine canal. This is the point where the needle should be introduced, keeping the anesthetic ahead of the needle point and injecting very slowly. A few drops of the anesthetic solution is introduced into the anterior palatine foramen, and after the anesthetic has had a chance to take effect the needle is slowly directed into the anterior palatine canal, forcing the anesthetic ahead of the needle. It is to be remembered that the canal runs parallel to the long axis of the central incisor.

An anatomic landmark that may prohibit satisfactory anesthesia of the maxillary first and second molars is the frequently prominent malar ridge. This ridge of bone, which can be felt as the finger is passed backward in the vestibule of the mouth over the maxillary first and second molar area, varies greatly in different individuals. If the malar ridge is high, then the bone over the buccal surfaces of the roots of the first and second molars usually can be satisfactorily anesthetized by infiltration. On the other hand, if the malar ridge is thick and heavy and extends well down to the alveolar process over these teeth, satisfactory anesthesia cannot be obtained by the infiltration method. In these cases, it is necessary to administer what is called the zygomatic or tuberosity block.

In this injection the hypodermic needle is introduced at the mucobuccal fold over the distobuccal root of the second molar, and directed backward and upward. A small amount of anesthetic solution is deposited into the mucous membrane but in this injection it is not desirable to force the anesthetic solution ahead of the needle as it is carried to the foramina on the zygomatic surface of the maxilla. The reason for not doing so is that in this area there is a network of thin-walled veins, called the pterygoid plexus, into which one can very easily introduce the hypodermic needle. If an anesthetic solution is deposited into the venous system the toxicity may be increased from 10 to 25 times in comparison to that of a subcutaneous injection, whereas if one injects into an artery, the toxicity is increased about 4 times in comparison to the subcutaneous method. For this reason, one should be very sure that the needle is not in a vessel before the introduction of the anesthetic solution.

With the needle directed upward and backward at the site described, a small amount of the anesthetic is first deposited and then, with a penholder grip on the syringe, the needle is forced upward. Immediately after penetrating the mucous membrane some resistance is encountered, due to the buccinator muscle, and very shortly the needle will seem to drop into a space. As a rule, it is not necessary to carry the needle farther than the point where it drops past the buccinator muscle. The posterior superior alveolar foramina are on an average about 15 mm. (slightly more than ½ inch) from the mucobuccal fold.

After the needle point has been car-

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ried to the desired position, the plunger should be slightly withdrawn to make sure that the needle is not in a vessel. If blood can be drawn into the syringe, it is desirable to start the injection over again with an entirely new sterile syringe and needle. If on drawing the plunger back no blood is seen within the syringe, it is safe to make the injection. Particularly in this injection the anesthetic should be deposited very slowly, for even though the needle may not be in a vessel, this area is extremely vascular and if the anesthetic is deposited rapidly it is absorbed too quickly and the patient may show signs of systemic reaction.

Q. What is meant by the infraorbital injection and what are the indications for its use?

A. To most dentists the infraorbital injection is a technic in which the needle is carried to the infraorbital foramen and the anesthetic deposited at its opening. Such an injection is carried out to anesthetize the anterior superior alveolar nerve, which is thought to branch from the infraorbital nerve just inside the foramen. Frequently such an injection does block off this nerve; however, if one is familiar with the anatomy of the anterior superior alveolar nerve, another technic will produce more satisfactory and constant anesthesia of this nerve.

Contrary to the generally accepted belief, the anterior superior alveolar nerve branches from the infraorbital nerve at points that vary from 4 mm. within the infraorbital foramen to even midway in the infraorbital canal. The nerve then passes in rather deep bone along the lateral side of the infraorbital canal and foramen. However, as the nerve continues it becomes more superficial and passes directly beneath the infraorbital foramen for a distance of approximately 4 or 5 mm. Here the nerve is covered by only a parchment-like thickness of bone. The nerve then continues medially and immediately passes deeper into the bone toward the nasal cavity.

This explains why the infraorbital block as administered by many (that is, depositing the anesthetic at the infraorbital foramen) often produces anesthesia. The anesthesia is produced if the nerve branches very close to its exit or if the anesthetic solution diffuses downward and anesthetizes the nerve as it passes below the infraorbital foramen. A much more satisfactory, reliable and constant anesthesia can be produced if the anesthetic solution is deposited directly at a point 4 or 5 mm. below the infraorbital foramen.

The anesthesia produced by the so-called anterior superior alveolar injection is very satisfactory. The needle should be introduced high in the vestibule of the mouth above the lateral incisor and beneath the alar portion of the nose. Then the needle can be carried directly to the area just described, painlessly unless one of the terminal nerve endings of the infraorbital nerve is encountered, which occasionally occurs. The needle, if introduced as recommended, usually needs to penetrate only approximately ½ inch (13 mm.). It should be remembered that injection at this site may produce anesthesia of the three terminal endings of the maxillary nerve. One branch passes to the lower eyelid, another to the side of the nose and the third to the upper lip. There is also an interlacing at this point between the trigeminal nerve and the facial nerve, so that frequently a true paralysis of the upper lip will occur on the injected side. Anesthesia in the regions of the terminal nerve endings and paralysis of the lip do not indicate anesthesia of the anterior superior alveolar nerve.

This injection technic is frequently used by the writer and is indicated whenever anesthesia of the anterior region is desired. It is especially desirable if infection is present at the sites where infiltration is usually carried out.

Q. When injections are made in the area of the posterior palatine foramen to produce anesthesia of the palate, frequently a patient complains of numbness of the soft palate, difficulty in swallowing and the sensation of gagging. Is there a method which avoids this unpleasant complication?

A. The sensation of fullness, difficulty in swallowing and a sensation of gagging following the injection in the posterior palatine foramen area are due to diffusion of the anesthetic solution posteriorly and anesthetization of the middle and posterior palatine nerves which supply the soft palate and the tonsillar region. The descending palatine nerves pass down through the posterior palatine canal. The anterior nerve passes outward into the palate and supplies practically all of the palatal region except that portion directly behind the central incisor, which is supplied by the nasopalatine nerve. The middle and posterior palatine nerves do not pass out through the posterior palatine foramen but exit through small openings approximately 5 mm. behind the posterior palatine foramen. The symptoms mentioned above are very unpleasant to the patient and are unnecessary unless a rather complicated procedure is being performed in this area.

In order to avoid these symptoms, it is desirable not to inject too close to the posterior palatine foramen. It should be remembered that all of the teeth are supplied by the alveolar nerves and that the palatine nerves, and especially the anterior palatine and nasopalatine nerves, supply only the soft tissue of the palate. Probably the anterior palatine nerve does send filaments to the teeth, but only rarely. In anesthetizing the palatal side of the maxillary third molar, it is desirable to deposit only a few drops of anesthetic just medially to the gingival tissue of this tooth. Instead of injecting opposite the second molar close to the posterior palatine foramen, if the needle is introduced medially to the maxillary first molar, satisfactory and profound anesthesia will be produced in the palatal tissues from the second molar anteriorly. The anesthetic diffuses posteriorly and anesthetizes the tissue behind the second molar but will not diffuse far enough to produce anesthesia of the posterior and middle branches, which causes the undesirable sensations.

COUNCIL REPORTS ON STATUS OF CHLOROPHYLL IN DENTISTRY

CHLOROPHYLL is derived by chemical extraction from alfalfa and other botanical species. Since 1945 it has been available to the medical profession for clinical use. There is laboratory and clinical evidence to suggest that chlorophyll-containing preparations accelerate wound healing and to show that they have a mild bacteriostatic action. Those chlorophyll preparations which the referee has examined are nontoxic and nonirritating. They are said to have a deodorant action on malodorous wounds.

Chlorophyll-containing preparations, Chloresium Dental Ointment, Chloresium Solution (Plain) and Chloresium

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Tooth Paste—Rystan Company, Inc., have been promoted for dental uses since about April 1948. They have been recommended for use in the treatment of Vincent's infection (necrotic ulceromembranous stomatitis) as an adjunct to periodontal treatment, for dry sockets, osteomyelitis, gingivitis and the deodorization of malodorous wounds.

It is the opinion of the Council on Dental Therapeutics that at the present time the therapeutic claims made for these chlorophyll-containing preparations promoted for dental use are not substantiated by sufficient controlled clinical evidence to justify their acceptance even for clinical trial. In a letter dated November 23, 1948, the Rystan Company acknowledged the need for further evidence and stated that a program to provide evidence of the sort needed was underway at a dental school.

The Council on Dental Therapeutics wishes to encourage research which may lead to the development of preparations useful in dentistry and will be glad to reconsider this group of products when additional evidence is available.

COUNCIL REPORTS ON DENTAL POULTICES

Poloris Capsicum-Benzocaine Dental Poultice was first considered by the Council on Dental Therapeutics about twelve years ago and at that time was found unacceptable.[1] The product was again submitted to the Council some time ago, but no further report has been issued pending the completion of studies which were undertaken by the firm and by the Council referee.

The formula of the product as presently distributed is as follows:

Capsicum	2.3 Gm.
Benzocaine	3.0 Gm.
Hops	82.1 Gm.
Sassafras	11.9 Gm.
8-Hydrozyquinoline sulfate	0.6 Gm.
Nacconal LAL[2]	0.1 Gm.

Laboratory and clinical studies indicate that this product will produce no harmful local effects. With the elimination of the aconite and belladonna from the formula reported upon in 1936, there is no likelihood of systemic toxicity. Therefore, acceptability of this product depends entirely on its degree of clinical effectiveness. Since it is used largely for the control of the milder types of pain encountered in dentistry, the evaluation of its effectiveness has proved most difficult because so many subjective factors are involved. However, several factors which have appeared in the studies sponsored by the firm and by the Council referee have tended to indicate that much of its effectiveness may be in the nature of psychotherapy.

As will be noted from the formula, there are only two active ingredients in the poultices; namely, capsicum, 2.3 per cent, and benzocaine, 3 per cent. There is little theoretic reason to believe that the latter drug, which is a well known local anesthetic, would have any effect

1. Poloris Dental Poulice—Not Admissible to A.D.R. *J.A.D.A.* 23:2174 (Nov.) 1936.

2. A trade-mark used to designate a brand of sodium lauryl sulfoacetate.

under the conditions of use. It is soluble in water only to the extent of 1:2500, and when it has been used as a topical anesthetic on the intact gingival tissue in dentistry it has generally been dissolved in alcohol or some other solvent in which a higher concentration can be obtained. There is little reason to believe that it could affect a deep-seated pain such as occurs in pericementitis.

The capsicum is present for its counterirritant action. While counterirritation is still used to a limited extent in both medicine and dentistry, its application has been steadily decreasing over the years until now, instead of being accepted as one of the standard therapeutic procedures, counterirritation is evaluated equivocally by authorities on pharmacology. For example, Sollmann[3] states:

> The relief of pain by counterirritation is explained partly by homologous reflexes and partly by diversion of the attention of the patient from the disease pain to the usually bearable sensation of the counterirritant.

Neither the studies sponsored by the firm nor those carried out by the Council referee have established this product as an effective therapeutic agent. In one study sponsored by the firm, cards marked *A* and *B* were attached to small envelopes containing three poultices each. The cards marked *A* carried regular Poloris poultices while the cards marked *B* carried unmedicated hops poultices. The participating dentists gave these cards alternately to patients suffering from a mild degree of pain and the patients were asked to fill in the card, giving data on the rapidity and degree of relief from pain. The firm did not report statistically on the study, but wrote to the Council's secretary as follows:

> Frankly the first results of this study were not particularly conclusive. Although Poloris showed a measurable superiority over the plain hops poultice we did not believe it was great enough to be considered statistically significant.

A study was conducted similarly by the Council referee except that greater precautions were taken to prevent any possibility that either the patient or dentist could guess whether they were dealing with an active or a placebo poultice. Results were likewise confusing, with no particular superiority indicated for the active poultice, and this method of approach was dropped. However, the fact that in the latter series 61 per cent of those who used placebo poultices reported moderate relief of pain and another 15 per cent reported slight relief supports the possibility that much of the effectiveness of Poloris poultices is psychologic in nature.

In another test, "blanque" pills were substituted by the firm for the unmedicated hops poultices. The firm writes as follows concerning this test, ". . . of 76 users of Poloris, 64 received relief in a median time of one hour whereas out of 78 users of the 'blanque' pills, 46 received relief in a median time of three hours." Obviously these results are more favorable to Poloris, but they are open to criticism. It is well known that any control should be of the same superficial character as the active drug and it does not seem feasible to use a "blanque" pill as a control for a poultice. Participating dentists might readily guess that the "blanque" pill was the placebo since they would know that they were carrying out the test for the Poloris Company. Thereafter they might unintentionally influence patient reaction by their own attitude. At best this type of test is of limited value and unless it can be designed in such a way that neither the therapist nor patient knows the active or placebo agent it is practically worthless.

In the last study conducted by the Council referee, 59 volunteers from the student body of his dental school were used. In each subject an active Poloris

3. Sollman, Torald, *A Manual of Pharmacology*, ed. 7. Philadelphia: W. B. Saunders, 1948, p. 118.

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Results of use of Poloris Capsicum-Benzocaine Dental Poultice as compared with placebo poultice in 59 subjects for one hour

	Taste	
Burning	Same as or less than placebo	13
	Greater than placebo	31
Bitter	Same as or less than placebo	6
	Greater than placebo	15
	Appearance of tissues	
Less hyperemic than placebo		8
Same as placebo, or no change		22
More hyperemic than placebo		20
	Tissue sensitivity	
More sensitive than placebo		6
No change, or same as placebo		27
Less sensitive than placebo		18

Poultice was placed on one side of the maxilla in the bicuspid region and a placebo poultice on the other side for one hour. The poultices were numbered so that neither the subject nor the observer knew which was the active or inactive poultice. Data regarding taste, appearance of the tissues and sensitivity of the tissues to a sharp instrument at the end of the hour were recorded and are summarized in the table.

Only in the case of taste was there any statistically significant data that would indicate a difference between the placebo and active poultices. This difference would be expected because of the bitterness of the hops and the burning taste of the capsicum. However, if the capsicum were causing sufficient local irritation to be of value as a counterirritant it seems logical to believe that some local reddening of the mucosa should be noted after one hour's contact. Actually, in a total of 30 subjects there was no change, a change equivalent to that under the placebo or less reddening than under the placebo, while in 20 subjects there was more hyperemia under the active than under the placebo poultice.

Furthermore, if the benzocaine in the poultice were active therapeutically one would expect that after one hour's contact the mucosa should be less sensitive to a sharp instrument. Actually, 27 subjects reported no change or a change equal to that noted under the placebo. Another 6 subjects reported more sensitivity under the active than under the placebo poultice, making a total of 33 subjects reporting no change, equivalent change or more sensitivity under the active as compared with the placebo poultice, while only 18 reported less sensitivity under the active as compared with the inactive poultice.

While these data do not clearly prove Poloris Poultices to be ineffective, neither do they or the data presented by the firm prove them to be a significantly effective agent. Since many years of use have produced no satisfactory scientific data to prove the effectiveness of products of this type, the Council concludes that much of their effectiveness is probably in the nature of a psychotherapeutic response. In some isolated instances this may be a perfectly legitimate approach by the dentist and in such instances the use of medicated poultices may be rational. However, they should never be used to the exclusion of other forms of therapy of established effectiveness.

Since neither the studies sponsored by the firm nor studies carried out by the Council referee have produced data proving Poloris Capsicum-Benzocaine Dental Poultice to be an effective therapeutic agent, it is not acceptable. However, the Council wishes to express its appreciation of the cooperation of the firm in making the name of their product more informative, in simplifying the formula and eliminating potentially injurious drugs and in furnishing the materials for studies designed to evaluate their product.

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EDITORIALS

COMPULSORY HEALTH INSURANCE: AMERICA MUST LEARN FROM THE ERRORS OF OTHERS

THOSE who would force the American people further into regimentation and dependency on the federal government made another attempt to advance their cause by introducing three compulsory health insurance bills into the Eighty-first Congress in January. A digest of these bills was published in the February issue of THE JOURNAL.[1] Senator Murray of Montana, who seems to have inherited Senator Wagner's role as chief impresario of national health insurance, introduced bill S. 5 into the Senate, where it was referred to the Committee on Labor and Public Welfare of which Senator Murray is vice-chairman. Representative Dingell of Michigan, an ardent champion of compulsory health insurance, introduced H.R. 783 into the House of Representatives, while Representative Celler of New York introduced H.R. 345.

The three bills are identical and, with the exception of changes in dates and numbers, are the same as S. 1320 which was introduced by Senator Murray into the Eightieth Congress. Political strategy permitted the Celler bill to be referred to the Committee on Ways and Means while the Dingell bill was referred to the Committee on Interstate and Foreign Commerce. Thus by having the bills referred to different committees their sponsors hope to get them reported to the House faster and with fewer restrictive changes.

Dentistry is definitely included in Title II of the bills, which specifies what prepaid personal health benefits are to be made available to eligible individuals. Dental services

1. Three Compulsory Health Insurance Bills Before Congress. *J.A.D.A.* 38:242 (February) 1949.

are to be rendered by general practitioners and by specialists who meet standards prescribed by federal agencies.

There is little doubt that proponents of compulsory health insurance will press for early action on this legislation, as they realize that it is sanctioned in principle by both President Truman and Federal Security Administrator Ewing. In his message to Congress on January 5 President Truman stated: "We must spare no effort to raise the general level of health in this country. . . . We need and we must have without further delay, a system of prepaid medical insurance which will enable every American to afford good medical care." No conscientious person will disagree with the President's desires to raise national health standards. However, had he urged that "we spare no intelligent and scientific effort to improve the health of the nation" his recommendation would have been more practical. The adoption of a system of prepaid medical insurance, more properly termed "compulsory health insurance," which the President proposes, is not a practical method of raising national health standards, as has been demonstrated by health conditions in the countries that have such systems.

The history of compulsory health insurance systems in other nations provides ample evidence that the limited advantages of such systems are far outweighed by the many disadvantages. While the payment, on the national scale, of compulsory health insurance premiums may finance certain limited health services for a certain limited group of people who now have difficulty in paying for health care, the system places the health, welfare and lives of all people in the country under the control of a small group of political appointees. It increases taxes, adds thousands of employees to public payrolls, increases costs and decreases quality of service. It is a first step in transforming a democratic government into a socialistic state. It places an intangible but dominant third party, the government, between the patient and the practitioner, and weakens individual initiative and self reliance by forcing the patient to rely on the government for service and the practitioner to rely on the government for payment. In all countries that have adopted compulsory health insurance the system, by lowering the standards of service for the individual, has failed to elevate the standards of health for the nation. At no time and in no country has dental disease been controlled or the standards of dental health been improved through a system of compulsory health insurance.

Great Britain currently is attempting to improve its national dental health standards by means of a compulsory prepaid program. The government is spending thousands of pounds annually to recondition the mouths of adults while preventive dental service for children and adolescents is neglected. Thus the children of today whose dental defects could be controlled with minimum time and expense will become the adults of tomorrow whose extensive dental disorders will require expensive corrections.

Until Britain shifts the emphasis of its dental program from one of correction for adults to one of prevention and control for children the standards of dental health in that country will never be improved, as the dental health of each generation will be no better than that of those that preceded it.

It would be folly for the United States to adopt the same type of national dental health legislation as that now in effect in Britain. It would be folly for this country to adopt the dental provisions embodied in S. 5 and its companion bills, H. R. 783 and H. R. 345, as they are essentially the same as those provided in the National Health Service Program of Great Britain. America should profit by the mistakes of the National Health Service Act and attack the problems of dental disease in this country in a more scientific and realistic manner.

HELP REHABILITATE A CRIPPLED CHILD

FIGURES presented by the Selective Service System during the recent war focused attention on the large number of persons in this country who are handicapped by unpreventable and uncorrectable physical defects, including those suffering from bone deformities, nerve injuries, congenital heart disease and impaired sight and hearing. A survey of children born since the end of the war probably would disclose the same prevalence of uncorrectable defects as was found among registrants during World War II. Many of these children suffer doubly, as they are handicapped economically as well as physically.

It is for this particular group that the National Society for Crippled Children and Adults conducts an intensive Easter seal sale in March of each year. Ninety per cent of the funds raised remain in the state in which they are contributed, to support a program of education and rehabilitation of disabled persons. Although members of the dental profession donate many hours of service annually to the relief of dental ills of the handicapped, they are invited to extend their humanitarian efforts by contributing to the annual Easter seal sale.

Every disabled child wants and should have proper medical and surgical care, healthful recreation, special vocational training and an opportunity to lead a useful happy life. Each Easter seal purchased helps to overcome the handicap of some crippled child.

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INTERNATIONAL CORRESPONDENCE

NEWS FROM BRITAIN

The regulations limiting the income which dentists may earn from the National Health Service have now been published. They differ a little from the interpretations, based upon the original press announcement, which were mentioned in the last letter. Dentists can only earn £4800 at the standard rate of fees. Thereafter their earnings are subjected to a cut of 50 per cent.

Examples of the method used in regulating dentists' earnings follow: A dentist is allowed to average £400 ($1,600) per month for every month he practices. If he submits claims for fees amounting to £400 ($1,600) or less per month he will be paid the exact amount of his claim less the appropriate deductions for superannuation and so forth. There will be few dentists who will be able so to regulate their work that they can submit exactly £400 ($1,600) each month. The dentist who has claimed the £400 ($1,600) for a month or two and then submits a claim for £500 will receive a cheque for £450 ($1,800) or £400 ($1,600) at the standard rate and half of £100 ($400) which is £50 ($200).

If a dentist claims £350 ($1,400) for a month's work, he will be paid this and for a subsequent month he can submit a claim for £450 ($1,800) which will be paid in full.

In the case of a dentist who, after claiming £500 ($2,000) for a month's work and receives £450 ($1,800) as described above, claims only £350 ($1,400) the following month, will be paid £375, ($1,500) the additional £25 ($100) being a rebate on the excess payment of the previous month.

If two dentists are in partnership the firm can submit claims for £800 ($2,400) per month and an additional £400 ($1,600) for each additional partner or assistant. There is no limit on additional earnings from private patients.

The Regulations became effective Feb. 1 but all treatment agreed to before Dec. 23 even if completed after Feb. 1 will be exempt. Difficulty is expected, however, where a dentist has a branch practice in a different Local Executive Council area from the one in which his main practice is situated. The Council is responsible for the payment of all claims and as yet no mechanism exists to coordinate the payments to the same dentist by different Councils.

The First Six Months

I am frequently asked by correspondents if British dentists are "better off" under the National Health Service than before it. It is difficult to give a straight answer to such a question as there are so many implications apart from the financial one. Never in the history of the profession has there been such a demand for dental treatment and the majority of dentists' appointment books are filled for weeks ahead. Before the limitation of earnings regulation was introduced, dentists were working longer hours than before the service started. I think that British dentists are averaging higher gross incomes than previously. I think also that their expenses are higher than ever before. Difficulties previously unknown have appeared. Qualified assistants are very few and newly graduated dentists can claim £1000 ($4,000) a year. Dental mechanics and secretaries also are scarce. There is a nationwide shortage of dental materials and instruments. Artificial teeth, impression trays, forceps, hand instruments, x-ray films and even, on oc-

casion, plaster of paris are in very short supply. Gold has only been available in very small quantities for a long time. It appears that the dentists, realizing that there would be a great demand for treatment, endeavored to build up a reserve.

Government Payment for Dental Treatment

The total value of approved estimates paid by the Local Executive Councils to dental practitioners for the first five months was as follows:

July	£51,253	($205,012)
August	£303,677	($1,214,708)
September	£997,125	($3,988,500)
October	£1,882,608	($7,530,432)
November	£2,461,134	($9,844,536)

The total cost of the general dental services up to Nov. 30 was £5,695,797 ($22,783,188).

Denture Repair Firms

The Minister of Health was asked recently in the House of Commons whether he would authorize the direct use by the public, under the National Health Service, of facilities afforded by denture repair undertakings and whether in view of the unforeseen cost of the dental service and the Minister's own effort to reduce dentists' working hours he would investigate the resources of the denture repair firms and consider how far they could help to meet the large unsatisfied demand for dental treatment. Minister Bevan replied: "No, the National Health Service Act provides that dental treatment shall be given by registered dental practitioners."

New Technicians Bill

The Denture Service Association was to hold a meeting in London early in February, to which all dental technicians were invited that they might discuss the new Dental Technicians Bill. This is a private measure sponsored by the Union of Shop, Distributive and Allied Workers. The Bill seeks to provide a compulsory register of dental technicians and to set up a board.

Commemoration Fund

The Dean of the Faculty of Dental Surgery of the Royal College of Surgeons of England, Professor Robert Bradlaw, has sent the following letter to the *British Dental Journal:*

"Our profession owes much to the Royal College of Surgeons of England. It was the first licensing body in the United Kingdom to grant a dental qualification; it holds lectures and post-graduate courses in dental surgery and related subjects and provides an extensive library and an Odontological Museum which Sir Frank Colyer has made the finest in the world, as well as many other facilities of which increasing use is being made.

"For nearly a century the College has taken a keen interest in the development of dental surgery and has encouraged and recognized advances in dental science and research. Dental surgeons from all over the world have found a welcome there.

"In 1947 a Faculty of Dental Surgery was established within the College and a Fellowship in Dental Surgery instituted, which is taking its place beside the Fellowship in Surgery and its specialties. As a mark of our appreciation of all that the President, Lord Webb-Johnson and the Council of the College have done for us, a Commemoration Fund has been opened to honour distinguished dental surgeons and others who have given outstanding service to dental surgery. It is proposed to use the Fund for the endowment of lectures or for other educational or scientific purposes. The Board of Faculty are confident that dental surgeons everywhere will welcome the opportunity to contribute."—*John R. Boyes, Newcastle Upon Tyne, England.*

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THE NATIONAL SCENE

from the Journal's Washington Correspondent

On Tuesday evening, Feb. 15, the House Committee on Expenditures in the Executive Departments voted favorably on a bill that would give the Federal Security Agency full Department status. Public hearings on the measure, at which opposition testimony was presented by representatives of the American Dental Association and the American Medical Association, had been concluded little more than an hour before the committee—by a voice vote—approved the bill (H.R. 782). The rapid forwarding action reflects the administration's desire to place the Federal Security Agency, whose chief components are U.S. Public Health Service, Social Security Administration and Food and Drug Administration, at Cabinet level with a Secretary as its head.

It is quite possible that, by the time this appears in print, the House will have passed the bill and sent it along to the Senate. But comparably swift action by the latter branch of Congress is unlikely. The Hoover Commission's final report on proposed reform and realignment of federal health, medical and hospitalization activities is due to be sent to Capitol Hill early in March. With its well merited reputation as the more deliberative branch of the national legislature, the Senate is hardly likely to vote on H.R. 782 before it has received and had time to ponder the Hoover Commission's recommendations. And what those recommendations may be, with reference to establishment of a new Department, may prove interesting, indeed.

Here is the reason why: During the course of its daily meetings in February, the Hoover Commission gave sober heed to the argument that virtually all of the government's medical functions should be vested in a single establishment, but not consolidated with education and social security in a Department of Welfare. The plan, which gained support within the Commission's membership, would provide that the U.S. Public Health Service, the Food and Drug Administration, the Veterans Administration medical department, military and naval hospitals within the continental limits and certain other lesser federal facilities be grouped together in a new independent agency responsible directly to the President. If a Department of Welfare were created, it would have cognizance of social security and education proclivities, but not medical.

Supporters of this unusual idea believe it would be acceptable to the medical and dental professions. In this connection, they point out that at the Feb. 15 hearing conducted by House Expenditures Committee, spokesmen for A.M.A., A.D.A. and the Association of American Physicians and Surgeons all agreed that a separate, independent agency to administer federal health and medical affairs is desirable. And all were united in deprecating establishment of a Department in which these functions would be grouped with education and social welfare.

A.D.A. Testimony

"The health problems of the nation, and the services set up to solve them, are of great importance, and a single health organization would result in a greater coordination of health efforts,"

the committee was told by Dr. Henry A. Swanson who, with Francis J. Garvey, secretary of the Council on Legislation, appeared in behalf of the A.D.A.

A short time ago it seemed that President Truman's proposal of a new Department, as provided for in the bill H.R. 782, would be favorably acted upon by Congress with a minimum of modification or delay. Now, however, the chances are increasing that a large Republican bloc, and many Democrats as well, will balk at its enactment partly on the ground that such a step would facilitate subsequent passage of compulsory health insurance legislation. But if health and medical affairs were consolidated in an independent agency—not necessarily a full scale Department—headed by a doctor, a compromise of this order might well rally considerable support on Capitol Hill.

Veterans Administration Reports

The Veterans Administration annual report for the fiscal year ended June 30, 1948, was submitted to Congress in mid-February. It disclosed that almost 800,000 applications for dental care were received during the 12-month period, with 701,000 veterans receiving examinations and treatment being instituted and completed for 655,900.

"About 60 per cent of all examinations and 92 per cent of all treatments were provided by fee-designate dentists to whom the VA paid over $50,000,000," said the report. Incidentally, the first meeting of VA's Dental Advisory Council was held on Feb. 14 and the members elected Dr. Paul H. Jeserich, of University of Michigan and W. K. Kellogg Foundation Institute, as chairman.

Other recent developments here included announcement by the Navy's flag rank board of the promotion of Capt. Robert S. Davis to the rank of rear admiral to serve under Adm. C. V. Rault. The Veterans Administration also announced the appointments of Irwin A. Conroe, of the New York State Education Department, as member of the Dental Advisory Committee to the V. A. and of Frances A. Stoll, of Columbia University, New York, as a consultant in dental hygiene.

LEGISLATION

NEW ARMY DENTAL BILL WILL GO TO CONGRESS SOON

A bill to create parity of administration for Army dental officers with their medical counterparts in the Army Medical Department will be introduced into Congress soon, according to Francis J. Garvey, secretary of the A.D.A. Council on Legislation.

Following a meeting of the Council, Feb. 5-6, at which a preliminary draft of the bill was concurred in by the Council on Federal Government Dental Corps, the Association's Board of Trustees directed that the bill be introduced.

Army dental officers, under terms of the new bill, would be directly responsible to the staff officer in command in the field and the Dental Corps as a whole would be responsible only to the Surgeon General of the Army. The Army recently revised its regulations to provide a portion of administrative parity for the Dental Corps but A.D.A. representatives and officers have pointed out that there is no assurance that regulations may not be changed.

As the A.D.A. issued its report on the new bill, the Armed Forces opened a recruiting campaign aimed at inducing dentists and physicians who received their

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training either as V.-12's, A.S.T.P.'s or as self-supporting students deferred from the draft in World War II to enlist in the dental and medical corps. The recently appointed Medical Advisory Committee to Secretary of Defense James E. Forrestal recommended the campaign.

Failure of the campaign to fill the shortage of dental and medical officers in the service is expected to set off attempts by the Secretary of Defense to have Congress enact a new "doctor draft." The most serious shortage of professional personnel is in the Army where Maj. Gen. Thomas L. Smith has disclosed that the Medical Department is operating with only 900 of an authorized 2,168 dental officers. The Navy reports it is nearing authorized strength.

A.D.A. OPPOSES CREATION OF HEALTH, WELFARE DEPARTMENT

Three bills which would create a new federal department of health, education and welfare with Cabinet status were opposed by the A.D.A. at a recent hearing, conducted by the House Committee on Expenditures in the Executive Departments, on the ground that placing the nation's health services under direction of a layman is as illogical as appointing "a man untrained in law as attorney general."

Henry A. Swanson, Washington, D.C. dentist and chairman of the A.D.A.'s Council on Dental Museum and Registry, presented the Association's opposition prepared by the Council on Legislation of which Carl O. Flagstad is chairman. Francis J. Garvey, secretary of the Council on Legislation, also appeared as a witness.

Each of the bills (H.R. 782, H.R. 184 and H.R. 1402) proposes to transfer federal government health responsibilities to a central department headed by a layman. They also propose to include education and social welfare in this department, another point to which the A.D.A. objects.

In pointing out that the official policy of the Association, established by the House of Delegates in 1939, calls for creation of a federal department of health with cabinet status, Dr. Swanson stated that the A.D.A. believes such a department should be headed by a physician. A.D.A. policy also demands that a dentist should be a "ranking and immediate assistant of the secretary of such a department."

Logic an Issue

Dr. Swanson said the Association realizes that "a degree of efficiency can be obtained by combining a number of independent agencies under a single head" but "there must be some direct and logical connection between the agencies so assembled." The logical connection between agencies dealing with health, welfare and education is not clear, he added.

Intimating that there might be some reason other than increased efficiency behind the bills to lump the three agencies together, Dr. Swanson made clear that there are enough "federal health functions and activities, even excluding the medical and dental department of the Armed Forces," to constitute a large organization which could be made into a single department of health.

Trained Leader Needed

Explaining the need for qualified leadership in health affairs, the A.D.A. spokesman was vehement in demanding that "matters relating to health should be administered exclusively by a person trained in matters relating to health." The administrator, he said, must thoroughly understand the general health problem and ought to have a technical, professional background in the field.

Near the close of his testimony, Dr. Swanson stated: "There is good reason,

likewise, to provide in any health organization for a separate bureau of dentistry, headed by a dentist. While dentistry is a branch of the over-all health professions, it is traditionally and practically an autonomous profession, with its own well-defined field of activity, its separate educational institutions, its separate systems of licensure in various states, its own professional organization and its separate, ever-expanding body of dental literature. Consequently, just as it is logical to require that an over-all administrator of a health program be a member of the health professions, so it is equally reasonable to grant bureau status within such a department to dentistry, with a chief of bureau trained in the dental profession."

Additional opposition to the bills was given in testimony by representatives of the American Medical Association.

Other Testimony

Dr. Flagstad, appearing before another Congressional committee—the House Budget Committee—urged appropriation of $2,000,000 for construction of a building for the National Institute of Dental Research. The funds were authorized by the 80th Congress when it passed the Dental Research Act which established the Institute but the President failed to include the sum in his budget request to Congress.

In requesting that the funds be appropriated, Dr. Flagstad asked that the matter be given priority by the Committee. Six reasons based on the urgent need for the funds to implement existing plans for dental research were given in support of the request. At present, the Institute is operating on U.S. Public Health Service Funds and without permanent quarters. H. Trendley Dean is director of the Institute.

A.M.A. ISSUES TWELVE-POINT COUNTER-MEASURE TO C.H.I.

In answer to charges made by 136 of its members that the American Medical Association had failed to develop a program for improved medical care, the Association announced a 12-point "health program for the advancement of medicine and public health far more comprehensive than any yet proposed by either the President of the United States or the Federal Security Administrator."

Urging creation of a federal department of health with Cabinet status which would have no connection with federal welfare and education agencies, the A.M.A. program is designed as a countermeasure to proposed compulsory health insurance legislation. Hearings on at least one of the several identical health insurance bills now in Congressional committee is expected sometime this month.

The 12-point program as outlined by the A.M.A. follows:

1. Creation of a Federal Department of Health of Cabinet Status with a Secretary who is a Doctor of Medicine, and the coordination and integration of all Federal health activities under this Department, except for the military activities of the medical services of the armed forces.

2. Promotion of medical research through a National Science Foundation with grants to private institutions which have facilities and personnel sufficient to carry on qualified research.

3. Further development and wider coverage by voluntary hospital and medical care plans to meet the costs of illness, with extension as rapidly as possible into rural areas. Aid through the states to the indigent and medically indigent by the utilization of voluntary hospital and medical care plans with local administration and local determination of needs.

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4. Establishment in each state of a medical care authority to receive and administer funds with proper representation of medical and consumer interest.

5. Encouragement of prompt development of diagnostic facilities, health centers and hospital services, locally originated, for rural and other areas in which the need can be shown and with local administration and control as provided by the National Hospital Survey and Construction Act or by suitable private agencies.

6. Establishment of local public health units and services and incorporation in health centers and local public health units of such services as communicable disease control, vital statistics, environmental sanitation, control of venereal diseases, maternal and child hygiene and public health laboratory services. Remuneration of health officials commensurate with their responsibility.

7. The development of a program of mental hygiene with aid to mental hygiene clinics in suitable areas.

8. Health education programs administered through suitable state and local health and medical agencies to inform the people of the available facilities and of their own responsibilities in health care.

9. Provision of facilities for care and rehabilitation of the aged and those with chronic disease and various other groups not covered by existing proposals.

10. Integration of veterans' medical care and hospital facilities with other medical care and hospital programs and with the maintenance of high standards of medical care, including care of the veteran in his own community by a physician of his own choice.

11. Greater emphasis on the program of industrial medicine, with increased safeguards against industrial hazards and prevention of accidents occurring on the highway, home and on the farm.

12. Adequate support with funds free from political control, domination and regulation of the medical, dental and nursing schools and other institutions necessary for the training of specialized personnel required in the provision and distribution of medical care.

POLITICAL OPPOSITION TO M-W-D BILL IS DEVELOPING

Coincident with a statement by Senator Robert A. Taft (R., O.) that he is preparing to introduce a bill through which the federal government would assist states in developing systems of voluntary health insurance, Republicans in Congress were reported solidly opposed to what they call proposals for "socialized medicine."

The Senate Labor Committee probably will take up compulsory health insurance upon completion of a substitute for the Taft-Hartley labor law, Senator Taft predicts.

Other Republicans both in and out of Congress who recently have voiced their opposition to national compulsory health insurance include Governor Thomas E. Dewey, of New York and Senator Arthur H. Vandenberg (R., Mich.).

Governor Dewey, who appeared cagey on the issue before the November election, spoke out against pending Murray-Wagner-Dingell health insurance legislation calling it "an evil invention" which "would reduce our doctors to servitude."

Senator Vandenberg was equally vehement in his opposition to compulsory health insurance stating in a recent speech that "socialized medicine" would "produce wholesale mediocrity in the skills which serve the sick and saddle us with a new and appalling bureaucracy."

A. D. A. AFFAIRS

BOARD OF TRUSTEES APPROVE INFORMATION PROGRAM; ACT ON VARIETY OF ISSUES

An initial $72,875 program to educate both the public and the profession on national health planning, including compulsory health insurance and other proposed national health measures, was the number one issue confronting the A.D.A. Board of Trustees when it met in Chicago, Feb. 5-7, to discuss Association policy on a variety of matters. In approving the new program, the Board reaffirmed the Association's "unalterable" stand against federal compulsory health insurance.

The expanded health information program will be two-phased in that it will present the basic facts on national health issues to both the public and the profession simultaneously.

Largest single budget item listed for the program is $27,500 for preparation and distribution of pamphlets and brochures to the public. Other funds have been allocated for use in developing all available public relations media. The Board also directed that four special information bulletins be distributed to the membership within the next few months. The new program will be financed with funds held in the Association's contingency fund, supplemented by money from the general reserve. In weighing the financial aspect of this program, the Board voted to accept voluntary contributions subject to general control of the Board.

A special committee of Central Office staff members, chairmaned by H. B. Bain, director of the Bureau of Public Information, prepared the program for presentation to the Board. Other members of the committee were: Lon W. Morrey, editor of THE JOURNAL; Allen O. Gruebbel, secretary of the Council on Dental Health; L. M. Cruttenden, assistant secretary of the Association and Francis J. Garvey, secretary of the Council on Legislation. Murrell Wellman, director of the Bureau of Library and Indexing and David Kinzer, of the Bureau of Public Information, served as consultants.

The committee recommended that special effort be made to provide information for the profession since it is believed that "an informed profession is the first step toward achieving an informed public."

Implementation of the program will be under supervision of the Bureau of Public Information in cooperation with the Councils on Legislation and Dental Health, and other agencies of the Association.

Following approval of the program the Bureau acted quickly to get the new operation under way. The hiring of additional personnel was begun before the Trustees had left the Central Office and a meeting of all A.D.A. staff heads was held before the program was a week old. Emphasized at the meeting were the need for immediate action and the need for cooperation by all interested agencies. It was indicated that some Association activities and services would have to be shelved or curtailed temporarily if an all out effort to initiate the program is to be made.

In addition, the Board authorized a State Secretaries' Management Conference which will be held March 24-26, at the Central Office. The general theme of this Conference, the second such meeting ever held by the A.D.A., will be

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public relations at the constituent society and national association levels. Implementation of the expanded health information program is expected to be the main topic. Letters urging all state society secretaries to attend were dispatched by Harold Hillenbrand, A.D.A. secretary, shortly after the Board acted.

Journal Supplement

Also related to the Association's new program, the Board was informed of a special supplement of THE JOURNAL devoted to compulsory health insurance, the A.D.A.'s program for improving the nation's dental health and other health problems. The supplement is scheduled to accompany the regular April issue.

Important among other actions taken by the Board was the approval of a recommendation that the *A.D.A. Newsletter,* published twice monthly by the Bureau of Public Information, be made available to all members of the Association. Previously the *Newsletter* went only to A.D.A. officers, certain officers of constituent and component societies and a few other Association representatives. Distribution of the *Newsletter* is now on a subscription basis and a standard subscription rate is being formulated.

A number of recommendations submitted by various councils and Bureaus of the A.D.A. were evaluated under a new Board committee arrangement wherein each committee was assigned a specific work load.

Finances

In discussing ways and means of improving the Association's financial status, the Board was informed that the operating deficit for the last half of 1948 was $185,000 or $11,000 under the amount anticipated. Both operating income and total expenditures were overestimated for the period. Operating income was $260,053.97 and anticipated income was $272,050 while total expenditures during the period were $444,075.96 compared with a total of $468,416 budgeted for operations in the same period.

In line with tighter budget control throughout the A.D.A., it was decided that all Councils and Advisory Committees should meet at the Central Office. This action eliminates substantial expenditures formerly needed to pay for transportation of entire Councils to the Annual Session. Under the new ruling either the Council chairman or his appointed representative may have expenses paid to the Annual Session except in cases where the Council secretary is a paid employee of the Association.

The Board also appointed its biennial survey committee to study Association salaries and personnel. Recommendations of this committee are advisory to the secretary in the establishment of sound policy. The Special Committee to Survey the Association was additionally charged with the duty of surveying the operational activities of THE JOURNAL.

Dental Health Day

The Council on Dental Health was directed by the Board to budget expenditures incurred in conducting National Children's Dental Health Day which was held for the first time on Feb. 7. Purpose of the action is to determine costs of such a program for future inclusion in the Association's over-all budget.

An additional budget request of $5,000 to aid the Council on Legislation in meeting its increased travel requirements was approved in view of expected hearings on federal legislation, mainly those on Compulsory Health Insurance. The registration of the Association under the Federal Lobbying Act with Francis J. Garvey, secretary of the Council on Legislation, listed as the A.D.A. representative, was approved.

The Board also passed a resolution calling for the Council on Legislation "to approve of further appropriations by

Congress for continuing the present topical fluoride experimental program of the United States Public Health Service only on the basis of a grant-in-aid program to individual states." Discussion of the Public Health Service program by representatives of the Council on Dental Health highlighted the danger of a continuing treatment program by a federal agency. The Public Health Service has already asked the 81st Congress for an additional $2,000,000 to support the topical fluoride experimental program for the next fiscal year.

A resolution that a bill to amend the Veterans Administration Law "to create parity of dentists with physicians in all pay grades" was approved. The resolution also calls for revision of the Law's existing phraseology of "doctors, dentists and nurses" and for the creation of a specialist service for the dental profession. A bill prepared by the Council on Legislation changes the phraseology to read "doctors of medicine, doctors of dentistry." It has been received favorably by the V.A.

The Dental Corps Issue

The Board members reviewed a bill prepared by the Council on Legislation to create parity of administration for dentists in the Army Dental Corps and approved introduction in Congress of such a bill. The Board also adopted resolutions calling for introduction of bills to (1) direct the President to "designate a definite day to be known as National Children's Dental Health Day" and (2) appropriate the $2,750,000 authorized by the last Congress for construction of a building and operation of the National Dental Research Institute.

Other actions of the Board included an authorization to send A.D.A. secretary, Dr. Hillenbrand to the next meeting of the Fédération Dentaire Internationale, to be held in Milan, Italy, May 30 through June 5. Dr. Hillenbrand will confer with dental leaders in Great Britain en route. A resolution to pay routine expenses of the Council on Insurance formerly borne by an outside agency was approved.

Appointment Approved

Section officers elected by the board for the 1949 Annual Session are as follows: (The offices of chairman, vice-chairman and secretary in each section are listed in that order.)

Clinics: Willard H. Hurley, Portland, Ore.; Walter A. Buchmann, Chicago; Marcus H. Burton, Washington, D. C.

Full Denture Prosthesis: Carl O. Boucher, Columbus, Ohio; Jack Werner, San Francisco; A. H. Grunewald, Washington, D. C.

Hospital Dental Service: Sanford M. Moose, San Francisco; Barkley S. Wykoff, Santa Barbara, Calif.; Robert F. Thayer, Oakland, Calif.

Operative Dentistry: Alexander Jeffery, Seattle; O. B. Commer, Louisville, Ky.; Rex Ingraham, Los Angeles, Calif.

Oral Surgery: Van B. Dalton, Cincinnati; Glenn J. Pell, Indianapolis; Vernor H. Eman, Grand Rapids, Mich.

Orthodontics: F. Copeland Shelden, Kansas City, Mo.; George S. Callaway, New York; Leigh C. Fairbank, Washington, D. C.

Partial Denture Prosthesis: Robert P. Dressel, Cleveland; Loren D. Sayre, Chicago; J. R. Gill, San Francisco.

Pedodontics and Oral Hygiene: Ralph L. Ireland, Lincoln, Neb.; John Chrietzberg, Springfield, Ill.; R. Mott Erwin, Jr., Portland, Ore.

Periodontia: James E. Aiguier, Philadelphia; Harold G. Ray, Chicago; Stanley C. Baker, Greenwood, S. C.

Research: Ellis B. Jump, Portland, Ore.; S. F. Bradel, Chicago; F. A. Arnold, Bethesda, Md.

Roentgenology: Walter S. Thompson, Los Angeles; Gordon M. Fitzgerald,

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San Francisco; LeRoy M. Ennis, Philadelphia.

Practice Management: Robert L. Borland, Los Angeles; Lloyd H. Dodd, Decatur, Ill.; Cecil H. Bliss, Sioux City, Iowa.

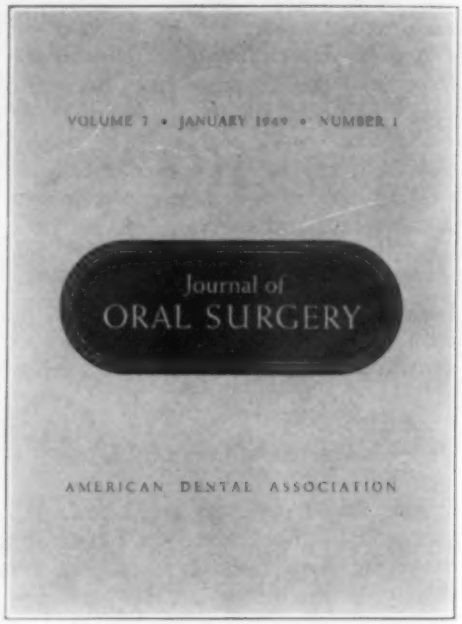
Scientific Exhibits (Dental Health Education Exhibits and Motion Pictures): H. B. G. Robinson, Columbus, Ohio; Hermann Becks, Berkeley, Calif.; J. M. Wisan, Providence, R. I.

Consultants to the Council on Legislation approved by the Board are: W. R. Alstadt, Little Rock, Ark.; N. A. Arganbright, Freeport, Ill.; C. J. Baumann, Sr., Milwaukee; W. H. Griffin, Boston; Paul E. Jones, Farmville, N. C.; Manly Michaels, Washington, D. C.; Granville Sherman, Memphis, Tenn., and C. H. Swanson, Columbus, Mont.

The naming of Lt. Col. Joseph L. Bernier, of the Army Institute of Pathology, Washington, D. C., as executive secretary of the Council on Dental Museum and Registry was approved by the Board as was the appointment of Brig. Gen. Raymond A. Dart, of the Army Institute of Pathology, Washington, D. C., as chief consultant; Consultants approved by the Board were: Herbert L. Bunker, Junction City, Kans.; Henry M. Goldman, Boston; Lester Kahn, New York; Donald Kerr, Ann Arbor, Mich.; Virgil Loeb, St. Louis; H. B. G. Robinson, Columbus, Ohio and Kurt H. Thoma, Boston.

Consultants appointed by the Trustees to the National Board of Dental Examiners follow: Frank O. Alford, Charlotte, N. C.; Harry G. Bolks, Sioux City, Iowa; Fred J. Dingler, Seattle; G. W. Gaver, Baltimore; Robert R. Gillis, Hammond, Ind.; Vere Lane, Albuquerque, N. M.; L. R. Main, St. Louis; George W. Matthews, Birmingham, Ala.; Norman A. Moore, Kansas City, Mo.; Harold J. Noyes, Portland, Ore.; Thermon B. Smith, Little Rock, Ark., and Thomas E. Tilden, Sacramento, Calif. Additional appointments approved include the dental chiefs of the Army, Navy and U. S. Public Health Service — Maj. Gen. Thomas A. Smith, Adm. C. V. Rault and Assistant Surgeon General Bruce D. Forsyth, respectively. Appointment of a consultant from the Veterans Administration has not yet been made.

JOURNAL OF ORAL SURGERY COMPLETELY REDESIGNED



The JOURNAL OF ORAL SURGERY, published by the Association quarterly and devoted exclusively to practical and scientific articles on oral surgery for the general practitioner and specialist has been completely restyled and modernized. The newly designed publication, slightly larger than its predecessor, is bound in a soft gray cover imprinted in deep blue. Readability is improved by the use of two-column pages, wide margins, Fairfield type and heavy enamel stock. Reed O. Dingman, editor, reports

that subscribers are unanimous in their approval of the new format. Some readers have expressed the opinion that typographically it leads the field in dental journalism. The subscription price of $5.00 per year remains the same.

A.D.A. RELIEF DRIVE CLOSES; CONTRIBUTIONS NEAR $54,000

With the 1948-49 A.D.A. Relief Fund campaign drawing to a close, total contributions up to Feb. 15 were $53,208.24, or slightly more than half of the proposed goal of $100,000. A total of about 24,000 members contributed.

The campaign ended officially Feb. 28 but complete returns from all states have not yet been tabulated. Contributions accumulated during the last half of the month appeared to be light and are not expected to change the overall total significantly.

Three state societies did add considerable amounts to their totals during the last half of January. Ohio reached 52 per cent of its quota with an additional $337.50 while North Carolina with an added $233 jumped to 62 per cent of quota. Kansas rose to 72 per cent of quota with contributions of $138 received during the two-week period.

Alabama leads all other states with 185 per cent of quota. North Dakota is the other state with more than 100 per cent of quota.

NOMENCLATURE AN IMPORTANT ISSUE IN COUNCIL DISCUSSIONS

As a result of discussions at a meeting of the Council on Dental Therapeutics, held in Chicago, Feb. 3-4, the Council's rule on nomenclature will be revised and broadened.

Two joint meetings—one with the Advisory Committee to the Bureau of Chemistry and one with the Council on Dental Research—were held by the Council to discuss chemical analysis of drugs, physical devices for killing bacteria, sampling procedures and related subjects.

The Council Acts

Under chairmanship of Thomas J. Hill, of Cleveland, Ohio, the Council held discussions on various factors affecting dental therapeutics and it was agreed that general adoption of standardized nomenclature for antibacterial agents and devices would be an important aid in their evaluation. The Council also agreed to consider analgesic preparations containing aspirin, acetophenetidin and caffeine for acceptance.

Bureau of Chemistry

The Advisory Committee to the Bureau of Chemistry, in addition to meeting jointly with the Council, held its first organizational session since it was created under the Association's new Constitution and By-laws. Floyd D. Ostrander, of Ann Arbor, Mich., was elected vice-chairman of the Committee and presided at the initial meeting in the absence of Chairman Philip Jay, also of Ann Arbor. J. Roy Doty, of Chicago, is director of the Bureau.

Council on Research

In its joint meeting with the Council on Dental Therapeutics, the Council on Dental Research, under Chairman J. L. T. Appleton, of Philadelphia, discussed scope of the two Councils in carrying out Association programs. An effort is being made to coordinate more closely the programs of the two councils.

A separate meeting of the Council on Dental Research was held the afternoon of Feb. 4 and on Feb. 5, according to C. B. Hall, of Washington, D. C., secretary.

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BETTER UNDERSTANDING OF TEST PROCEDURES NEEDED

Highlighting discussions held at the Fifth Congress on Dental Education and Licensure, sponsored by the A.D.A. Council on Dental Education, representatives from the two fields agreed that additional work must be done both in the dental schools and by the dental examiners to develop a better understanding of test evaluation and modern testing methods.

The Congress, held Feb. 5 in Chicago, was attended by some 200 representatives of organizations including the American Association of Dental Schools, the American Association of Dental Examiners, the National Board of Dental Examiners and the Council.

A number of papers and discussions dealt with teaching methods used in dental schools and the types of examinations being used by dental schools and dental examiners. It generally was agreed that further study should be given these subjects.

Conference Scheduled

Immediately following the Congress, James J. Vaughn, of Nashville, Tenn., president of the American Association of Dental Examiners, held a special meeting to study recommendations made at the October meeting of the A.A.D.E. which called for a series of workshops or conferences on examination methods. It was tentatively decided to hold the first such conference during the 1949 A.D.A. Annual Session. The second conference may be held in Chicago in 1950.

The meeting was attended by Lloyd Blauch, of the U. S. Office of Education, Shailer Peterson, and J. Roy Blayney, secretary and president respectively of the Council on Dental Education. Henry A. Swanson was named chairman of a new committee of the Association charged with arranging the conferences.

COUNCIL ON DENTAL EDUCATION TAKES FAR REACHING ACTIONS

The A.D.A. Council on Dental Education, at its meeting in Chicago, Feb. 4-6, decided to make the Council's dental aptitude testing program available within two years to the nation's dental schools for use in admitting freshmen students and to begin a long-range survey of all approved dental schools.

Announcement of plans to make the aptitude testing program, which has been on clinical trial for several years, available to all qualified applicants came from Shailer Peterson, secretary of the Council. Dr. Peterson has directed the program since its inception. All of the country's approved dental schools have been using the testing program experimentally and a few schools have additionally employed a separate battery of tests. It is hoped, Dr. Peterson states, that the testing program will be available by 1950-51 or 1951-52.

In referring to the Council's proposed survey of dental schools, J. Roy Blayney, chairman of the Council, disclosed that "financial management and support" will be the first item to be studied. Other factors to be surveyed individually include faculties, physical plants, organization, research, curriculum and teaching.

This survey differs from the one conducted in 1942-43 by the Council, according to Dr. Blayney, in that in this survey all schools will be studied in relation to one topic or subject before the following one is begun.

A program for inspecting schools training dental hygienists was discussed and it was announced that a conference on dental hygiene education will be held in June.

DENTAL EDUCATION

CLEFT PALATE INSTITUTE IS FORMED AT NORTHWESTERN U.

In an effort to advance the study and treatment of cleft palate deformities, three professional schools at Northwestern University have established the Cleft Palate Institute. The three schools involved are those of dentistry, medicine and speech.

John R. Thompson, professor of orthodontia in the dental school and director of the new Institute, states that coordination in one organization of all the skills and knowledge peculiar to the cleft palate problem is one of the Institute's great values.

In addition to Dr. Thompson, the Institute's staff includes: Frederick W. Merrifield, plastic surgeon, professor of oral surgery in the dental and medical schools; Harold Westlake, associate professor of speech re-education in the speech school; Touro M. Graber, assistant professor of orthodontia, dental school; Max Kuharich, assistant professor of prosthetics and associate in orthodontia, dental school; Gordon Howard, oral pathology instructor, dental school and Raymond Carhart, professor of audiology in the speech school and assistant professor of otolaryngology, medical school.

TWO POSTGRADUATE COURSES SCHEDULED IN PENNSYLVANIA

An eight-day postgraduate course on the mechanical principles of restorative dentistry for teachers of operative and prosthetic dentistry, including bridges, will be given by the University of Pennsylvania school of dentistry starting April 4, according to Lester W. Burket, director of the school's postgraduate division.

A course also will be presented for dental hygienists starting April 25 and closing April 29. For additional information write Dr. Burket, director, postgraduate division, University of Pennsylvania school of dentistry, Philadelphia 4.

THREE ADDITIONS TO EMORY U. DENTAL FACULTY ANNOUNCED

Three appointments to the faculty of Emory University School of Dentistry were made recently by Dean John E. Buhler. Frank F. Lamons was made professor and chairman of the department of orthodontics. John Haldi was appointed professor of physiology and Winfrey Wynn was made assistant to Dr. Haldi.

Dr. Lamons, under whose supervision the curriculum content of orthodontics courses is being revised to place teaching emphasis on growth observations in children, and prophylactic and palliative treatment, is a graduate of Emory University School of Dentistry and has taught there since 1928. He is a past-president of the American Society of Dentistry for Children, a former chairman of the orthodontia section of the A.D.A. and is a vice-chairman of the American Academy of Pedodontics. He also holds posts with the American Board of Pedodontics and the *American Journal of Dentistry for Children.*

Dr. Haldi, who is also associate professor of physiology in the medical school, will place special emphasis in his dental school teaching on the application of physiology to the practice of dentistry. He currently is engaged in long-term research on comparative nutritional values.

Dr. Buhler also announced that Ralph R. Byrnes, who recently retired after serving 27 years as dean of the school

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of dentistry, has been named dean emeritus. M. D. Huff, also recently retired, has been named professor emeritus of materia medica and therapeutics. He was secretary of the dental school faculty.

U. OF ILLINOIS DENTAL ALUMNI ELECT NEW OFFICERS

A. J. Sells, of Oak Park, Ill., has been installed as president of the Dental Alumni Association of the University of Illinois. He succeeds Kermit F. Knudtzon, of Chicago. Other new officers are: G. Walter Dittmar, Jr., Chicago, president-elect; Paul B. Bass, Wilmette, Ill., vice-president; John M. Spence, Oak Park, secretary and Howard E. Gillette, Aurora, treasurer.

NORTHWESTERN ANNOUNCES FUND RAISING CAMPAIGN

A campaign to raise $165,000 in three years for the Northwestern University dental school got under way Feb. 9 at the annual meeting of the Northwestern University Dental Alumni Association. The fund will be used to provide the school with new equipment for teaching and research.

The 1951 goal for raising the funds was planned to coincide with the University's centennial and Charles W. Freeman, dean of the dental school has called the fund raising committee's attention to the school's need for certain types of new equipment. Some 800 to 900 dental alumni are expected to participate in the campaign.

JOURNAL ERROR CORRECTED

An error in makeup in the February issue of THE JOURNAL (Vol. 38, No. 2, page 255) placed an announcement of a postgraduate course on temporomandibular articulation in the text of a story announcing the appointment of C. D. Marshall-Day as dean of Tufts College dental school. The course is being given by the University of Illinois college of dentistry and will begin on March 23. Further information on the course may be secured by writing Bernard G. Sarnat, head of the college's department of oral and maxillofacial surgery, 808 S. Wood St., Chicago 12.

VETERANS

V.A. REPORTS ON SHORTAGE OF PROFESSIONAL PERSONNEL

All of the nation's "1,515 dental graduates" will be needed to replace dentists lost to the field annually because of death or retirement, a report prepared for the Veterans Administration by the Department of Labor states. Release of the report by V.A. was made shortly after Veterans Administrator Carl R. Gray, Jr. disclosed that veterans hospital expansion would be curtailed.

The Department of Labor report additionally stated that "about two-thirds of this year's 5,543 medical graduates" will be needed to fill the profession's need for replacements and pointed out that there is need for additional personnel in nursing and other "medical service occupations."

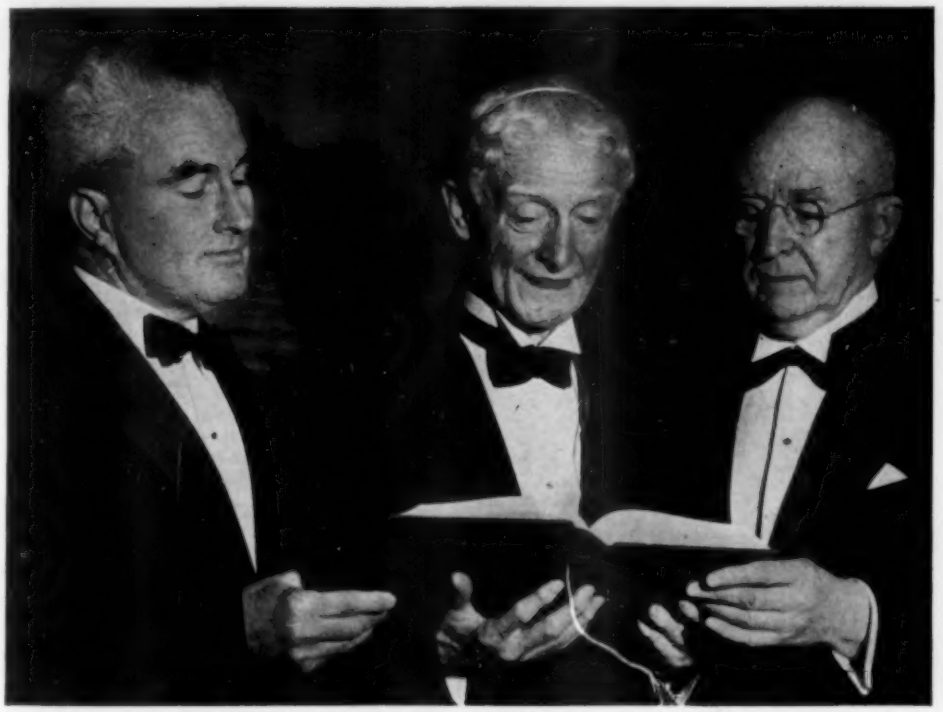
First on Mr. Gray's list of reasons for reduction by some 16,000 beds of the V.A. hospital expansion program was "the inability of V.A. to fully staff its present hospitals and a further definite

shortage of professional personnel to staff new hospitals."

While no specific mention of the dental personnel shortage was made in Mr. Gray's report of the "reevaluation of the veterans hospital expansion program," the V.A. recently cautioned branch offices against expansion of dental clinics. As long ago as last summer, spokesmen for the V.A. told the A.D.A. that dental clinic operations were being curtailed.

The V.A. now has a modified medical internship program underway and it is reported that consideration is being given to establishment of a dental internship program in veterans hospitals.

The V.A. has extended its reorganization to reduce its 13 branch offices to the status of district offices to handle insurance and death claims. This move was made in the interest of increased efficiency, a V.A. statement said.



William J. Gies, editor of the recently published book titled "Horace Wells, Dentist: Father of Surgical Anesthesia," discusses plans for distribution of the volume with Eugene M. Clifford, chairman of the A.D.A. Horace Wells Centenary Committee and Arthur H. Merritt, member of the Horace Wells Club, at a celebration held in Hartford, Conn. The book is being sold at cost and may be obtained by sending $5.00 to the American Dental Association, 222 E. Superior St., Chicago 11. (Photo by *The Hartford Courant*)

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Among those present at the first joint meeting of the Honorary and Reserve Consultants to the Navy's Bureau of Medicine and Surgery, held recently at the National Naval Medical Center, Bethesda, Md., were: (L. to R.) Joseph L. T. Appleton, dean of the University of Pennsylvania school of dentistry; Adm. Clemens V. Rault, assistant chief of the Bureau of Medicine and Surgery (Dentistry); Clyde E. Minges, president of the A.D.A.; Daniel F. Lynch, A.D.A. fourth district trustee; Alfred W. Chandler, general inspector of the Navy and Philip E. Adams, president-elect of the A.D.A.

RESEARCH

DENTISTS URGED TO PARTICIPATE IN SYMPOSIUM ON ANTIBIOTICS

To promote research in the field of antibiotics, the Antibiotics Study Section of the National Institutes of Health will hold its second symposium on recent advances in antibiotics research, April 11-12, in Washington, D.C., Leonard Karel, executive secretary of the Section, has disclosed.

In a letter to THE JOURNAL, Dr. Karel stated that all interested persons are not only invited but urged to participate by presentation of reports of current investigations. The deadline for submission of an abstract of a proposed report is March 10. To be included in the program, which will stress new and unpublished work, the abstract must be accepted by the program committee consisting of Henry Welch, chairman, Harry Eagle, Walsh McDermott and Dr. Karel.

For additional information write Dr. Karel, executive secretary, Antibiotics Study Section, Division of Research Grants and Fellowships, National Institutes of Health, Bethesda 14, Md.

SURGEON GENERAL APPOINTS DENTAL SECTION MEMBERS

Allan G. Brodie, dean of the University of Illinois college of dentistry, and Thomas J. Hill, of Western Reserve University have been named members of the dental study section of the National Institutes of Health by Surgeon General Leonard A. Scheele. In all 33 new members have been appointed to study sections in the Institutes to replace members whose terms expired at the end of 1948.

CANCER RESEARCH GRANTS ARE APPROVED BY INSTITUTE

An additional $209,838 for laboratory and clinical research in cancer has been approved by the National Cancer Institute bringing total cancer grants for December to $1,319,000, according to Federal Security Administrator Oscar R. Ewing. This group of awards, none of which was granted to a dental school, was approved by the National Advisory Cancer Council but announcement of these awards was withheld until certain adjustments could be made on original requests.

ARMY AND NAVY

NEW YORK STATE HEALTH AGENCY RAISES DENTAL SECTION STATUS

In a move to meet the increasing responsibilities attendant to an expanded dental health program, the New York State Health Department has provided its dental health section the status of Department bureau.

The broadened dental health program, approved by the Dental Society of the State of New York, calls for intensification of caries control with special emphasis on the application of sodium fluoride to the teeth of school age and younger children, according to Herman E. Hilleboe, state health commissioner. A more intensive program of postgraduate education for dentists in the diagnosis of cancer of the oral cavity also is being stressed.

David B. Ast, who was director of the dental health section which operated as a subdivision of the maternal and child health bureau, will move up to director of the new dental health bureau.

PUBLIC HEALTH

DEFENSE ADVISORY COMMITTEE APPOINTMENTS CONFIRMED

Confirmation of the appointment of Daniel F. Lynch, of Washington, D.C. and a member of the A.D.A. Board of Trustees, to the Armed Forces Medical Advisory Committee has been made by Secretary of Defense James E. Forrestal. The other dentist on the 14-man committee is Walter H. Scherer, of Houston, Texas. Francis J. Braceland, University of Minnesota professor of psychiatry also has been appointed to the committee.

Two meetings of the Committee have been held and Chairman Charles Proctor Cooper has opened offices in the Pentagon with a staff under the direction of J. Joseph Whelan, executive secretary. A subcommittee on organization and procedure reported at the second meeting.

The Committee, according to Mr. Forrestal, will advise and recommend on general policies and programs for the coordination and improvement of the medical and allied services of the National Military Establishment, and for the development of maximum continuing cooperation and understanding between members of the civilian medical, dental and allied professions and the armed services.

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GENERAL NEWS

AMERICAN DENTAL TRADESMEN CHARGED WITH F.T.C. VIOLATION

The American Dental Trade Association and 114 manufacturers and distributors of dental products have been charged by the Federal Trade Commission with conspiring to eliminate competition in violation of the F.T.C. Act. The defendants, on Feb. 16, were given 20 days in which to file an answer to the general charges.

In general the complaint states that the Association, manufacturers and dealers have "carried out an unlawful agreement, combination, understanding and conspiracy to hinder, lessen, eliminate, limit and restrain" competition within the industry. Of the 114 manufacturers and distributors named in the complaint, 48 are engaged solely in manufacturing, six are engaged in manufacturing and distributing, and 90 are distributors.

The defendants operate in 36 states and handle approximately 75 per cent of all dental equipment and supplies sold in this country, it is estimated.

In a statement denying F.T.C.'s allegations, Wilmoth C. Mack, of Washington, D. C., A.D.T.A. secretary, stated that the complaint was "reckless and unfair." He denied that the Association ever had anything to do with prices charged by its members and charged that the F.T.C. is "relying on strained inferences from hearsay statements that may have been made nearly 70 years ago by some deceased member of A.D.T.A."

ALL DENTISTS INVITED TO OREN A. OLIVER TESTIMONIAL

The testimonial seminar, luncheon and banquet being held March 12, in the Mayflower Hotel, Washington, D. C., in honor of Oren A. Oliver, of Nashville, Tenn., past-president of both the A.D.A. and the American Association of Orthodontics, is open to all dentists desiring to attend, according to Leigh C. Fairbank, of Washington, who is in charge of reservations. For information write Dr. Fairbank at 1726 Eye St., N. W., Washington, D. C.

DENTAL LABORATORY GROUPS UNDERTAKE CONSOLIDATION

Consolidation of the nation's two leading dental trade associations into an organization to be known as the American Dental Laboratories Institute was undertaken by representatives of the Dental Laboratories Institute of America and the American Dental Laboratories Association at a meeting held recently in Chicago.

Formation of a single organization to represent dental laboratories on the national level has long been urged by elements within both the D.L.I.A. and the A.D.L.A. The agreement to merger, according to spokesmen for both groups, was reached on the grounds that their by-laws are "almost identical, agree in principle and differ only in detail."

The Executive Council of the A.D.L.A. already has approved the consolidation and two resolutions to effect formation of the new Institute have been passed jointly by "unity committees" of the two groups. Both organizations are to finance the amalgamation on an equal basis. They will continue to function individually until the merger is completed.

Members of the "unity committees" who met to discuss formation of the new American Dental Laboratories Institute are: Roe Miller, Horace Denner, S. S. Swilling, Earl E. Schappell and Nelson R. Davies, of the D.L.I.A.; and O. A. Nachbar, Adrian Benjamin, Joseph J. Dwyer, I. Margoshes and Paul Stough, of the A.D.L.A.

SPECIAL TRAIN TO CARRY DENTISTS TO A.D.A. SESSION

The Ohio State Dental Association is offering accommodations on a special train to dentists and their families who will attend the 90th annual session of the A.D.A. to be held in San Francisco, Oct. 17-20. Dentists in Ohio, Michigan, Wisconsin and Illinois will be particularly interested in this announcement.

A committee headed by C. W. Carrick, of Oberlin, Ohio, has completed arrangements for the trip which includes side tours to the Grand Canyon, Yosemite National Park, Salt Lake City, Colorado Springs and other scenic and historic sites. The train will leave Chicago Oct. 6 and arrive in San Francisco Oct. 13. The return trip calls for departure Oct. 21 and arrival in Chicago Oct. 24. For further information and reservations write C. W. Carrick, Chairman, 5 South Main Street, Oberlin, Ohio.

INTERNATIONAL

PAN-AMERICAN ODONTOLOGISTS MEET AND ELECT OFFICERS

In his presidential address to the 12th annual meeting of the Pan-American Odontological Association, held recently in New York, Walter H. Wright, dean of New York University college of dentistry, told members that assistance to Latin American dentists is desired but that what they have to offer should not be overlooked.

Dr. Wright was succeeded as president during the meeting by Russell A. Dixon, dean of Howard University school of dentistry. Dr. Dixon spoke on the social aspects of dentistry.

Officers elected at the meeting in addition to Dr. Dixon were: James Aiguier, president-elect, Philadelphia; Ralph Howard Brodsky, executive-secretary, New York; J. L. T. Appleton, Philadelphia, dean of the University of Pennsylvania school of dentistry; H. P. Hurlong, Arden, Del., and John Gurley, San Francisco, all vice-presidents and H. Justin Ross, treasurer, New York. The new secretaries are: Andrew Francis Jackson, Philadelphia, for North America; Raul Maya, Havana, Cuba, for Central America and Raul Garcia Arocha, Caracas, Venezuela, for South America. Harry M. Seldin, New York, was elected editor.

TWO FOREIGN DENTAL SOCIETIES ELECT OFFICERS FOR YEAR

Two Argentine dental organizations—the Argentine Dental Association and the Argentine Society of Dental and Maxillofacial Surgery—have elected officers for 1949.

The Argentine Dental Association officers are: Jorge French, president; Jaun E. Dillon, vice-president; Juan R. Castro, secretary; Enrique Fernandez Godard, assistant secretary; Clodomiro S. C. Cacciatore, treasurer and Herman M. Echenique, assistant treasurer.

Officers elected by the Argentine Society of Dental and Maxillofacial Surgery are: Renato A. Vivone, president; S. Abel Sticco, vice-president; Normando Quereilhac, secretary; Homero D. Bianchi, assistant secretary and Reynaldo Dabadie, treasurer.

A.D.A. MEMBERS INVITED TO ATTEND ITALIAN CONGRESS

Members of the A.D.A. are invited by the Medical Association of Italian Dentists to attend the 24th Congress on Stomatology, to be held in Taormina and Catania, Sicily, April 20-24, O. Tempestini, head of the arrangements committee, has announced.

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BOOK REVIEWS

The Pathology of Nutritional Disease. By Richard H. Follis, Jr., M.D. 310 pages with 110 illustrations. Index. Cloth. Price $6.75. Springfield, Ill.: Charles C. Thomas, 1948.

This book should be useful to dentists interested in the relation of dietary deficiencies to human disease. It is timely and dependable, and its content is protected by extensive and careful documentation. Unfortunately, it is very unlikely to be used as it deserves, either by writers in the dental field or by practitioners. This assumption may be questioned, but it is based on twenty years' experience. Nutritional disease is a complicated subject, and much confusion is associated with it.

That others than dentists have helped to confuse it is indicated in the preface of this book by a quotation from Casmir Funk, a well known investigator: "There is perhaps no other subject in medicine where so many contradictory and inexact statements were made, which instead of advancing the research retarded it by leading investigators in a wrong direction." In line with this, the author remarks: "Currently there is much need for a revaluation of the clinical aspects of nutritional deficiency states."

It is indeed truly difficult to scale down what we have been encouraged to believe about the supposed frequency and severity of deficiency diseases to the author's statement that, of the forty-odd nutriments which are considered as possible disease factors, "only a relatively small number have been shown by themselves to lead to deficiency disease in man except under stringent laboratory conditions." With respect to dental caries, he remarks:

"The relation of calcium, phosphorus, and vitamin D to the structure of the human tooth and to dental caries in particular is not too clearly understood. So many factors, such as carbohydrate, mouth flora, fluorine, to name only a few, play a role in the production of caries that the effects of the three nutrients cited above, and especially vitamin D, seem almost impossible to determine. Inasmuch as this book deals primarily with pathological effects produced by deficiencies of single nutrients and since the subject of dental caries is so controversial it seems unwise to enter a field in which there is so much disagreement. When such is the case, it is evident that the data are sufficient not to convince but to confuse everyone."

Dental and oral conditions are briefly discussed, not only in connection with other results of specific deficiencies, but in the section on pathologic anatomy of individual tissues and organs. In that section a paragraph is devoted to the buccal cavity and another to the salivary glands.

This book is excellent and the illustrations are well chosen and more than adequately reproduced.—*Edward H. Hatton.*

Die Zahnheilkunde im Neunzehnten Jahrhundert (Dentistry in the 19th Century). By Hedvig Lidforss Stromgren. 274 pages with 162 illustrations. Index. Copenhagen: Eznar Munksgaard, 1945.

This book is a sequel to the author's *Dentistry in the Eighteenth Century.* It presents a general account of dental development in the century during which anesthesia and antisepsis were introduced. Special stress is placed on changes in dental drills, which were developed from the primitive hand drill through various foot engines to the electric battery engine and finally to the dental engine as it is known today. The author refers to these improved facilities for cavity preparation as the basis of modern dental practice.

Interesting photographs are included, showing full and partial dentures constructed of ivory. It is interesting to note how little the basic construction of prosthetic appliances has changed. An account is presented of the reintroduction by de Chemant of porcelain for the construction of dentures.

Many sidelights are introduced that are not to be found in dental historical works heretofore published in America. The nineteenth century stands out as the period in which the greatest discoveries were made and the basic technics for the general practice of dentistry were introduced. The author has a wealth of interesting historical material to call upon; even the romantic factor is not lacking.

As is to be expected, many of the incidents occurred in Europe—notably in France, Germany and the Scandinavian countries—al-

though references are made also to dental developments in America. No new historical findings are brought to light, but the conversational, leisurely style holds the reader's attention even when the material has no direct bearing on dental history. It is hard to tell where history stops and fiction begins.

The legalization of dental practice and the foundation of dental schools and dental associations in various countries, including the United States, is described. A description of a day at the New York College of Dental Surgery in 1872 is presented in a letter by a German student to a German dentist and indicates the type of academic course pursued in that era.

The book is well prepared, and the many new illustrations are beautifully reproduced.—*J. A. Salzmann.*

The Chemical Formulary. H. Bennett, Editor-in-Chief. Volume VIII. 448 pages. Index. Price $7. Brooklyn: The Chemical Publishing Co., Inc., 1948.

This is the eighth volume of an encyclopedic compilation of commercial formulas. It will provide interesting and useful source material for anyone who wishes to prepare mixtures ordinarily purchased under proprietary names. A certain amount of experience is necessary to success in this type of activity, and a good knowledge of practical chemistry and physics is desirable.

This and the seven other volumes in the series contain numerous formulas and instructions for the preparation of adhesives, cosmetics, drugs, emulsions and dispersions, farm and garden preparations, food products, ink and allied products, leather treating preparations, lubricants, photographic items, cleaners and many other useful items.

Many of the dental preparations described in the book cannot be recommended. For example, some of the dentifrices contain sugar or sodium perborate, and one contains silica. One tooth powder is described as a "gum hardener" and another as "anti-pyorrhea tooth powder." Many practical suggestions of a technological nature are given, however.

Commercial sources of a large number of ingredient materials are listed in an appendix. A small section is devoted to conversion tables.—*Donald A. Wallace.*

Private Enterprise or Government in Medicine. By Louis Hopewell Bauer, M.D. 201 pages. Price $5. Springfield, Ill.: Charles C. Thomas, 1948.

The first chapter of this book reviews medical problems that have become apparent recently and attributes them to changes in medical education, diagnosis and diagnostic aids; hospitals and change in treatment; nursing; specialization; increase in medical fees; therapeutic agents, and distribution of medical care.

The four chapters immediately following include short discussions of the deficiencies of our present system of medical care, with due attention to public health services, veterans' problems, workmen's compensation and other aspects of public activity in the field. The author then proceeds to a consideration of medical insurance and hospitalization; notes on the history and results of certain legislative measures; the programs and general attitudes of the American Medical Association, and the arguments pro and con as to the advisability of establishing medical care on a mass basis.

The author points out that any patient, irrespective of his ability to pay is entitled to the best diagnostic, surgical and medical care and that the cost of such care for those unable to pay must be distributed as widely as possible. He does not favor a separate plan for the indigent and for persons in low income groups, lest it should tend to lower the quality of the services rendered. He adds that the cost of a separate project would be prohibitive, since meeting the needs of a special group is expensive. Until medical care is provided for all the members of a community, he says, no system should be considered satisfactory or even acceptable.

To the student this book is of interest as a summary of action taken and contemplated in the field of public health as new needs arise. To the practitioner it has, in addition, a certain historical value, providing him with a record of his profession's participation in social evolutionary progress.

The book has a good bibliography but no index. The appendix includes the text of the Taft, Smith, Ball, and Donnel Bill (S.545), a proposed national health act introduced in the Senate on February 10, 1947.—*Harry Strusser.*

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A Stomatologia Tankonyve (Textbook of Stomatology). By Charles Balogh. 522 pages with 719 illustrations, some in color. Budapest: Hungarian Medical Publishing Company, 1948.

This book represents a remarkable accomplishment when we consider the date of publication and the condition of Hungary during and after the war. The paper is excellent, the illustrations very good and the material well presented. The author as well as the publisher should be heartily congratulated.

In a very concise manner, this book brings in "everything" concerned with the oral cavity. One has to keep in mind that the Hungarian dentist must first be an M.D. after which he must spend three years studying dentistry, which is considered a special branch of medicine. An English synopsis, which also explains the problems a small nation has in keeping up with its big and wealthy brothers in science and research, is attached to this book. Problems of dental education in Hungary are also explained. Stomatology is taught not only to those who specialize in this field but also is taught to medical students. Stomatology is an obligatory course, consisting of five lecture hours a week per semester (four months) with an examination at the end of the course.

The book starts with gross anatomy of the head and neck, anatomy of the teeth, development of teeth and function of teeth. Roentgenologic technic and interpretation follow. In operative technic, Black's principles of cavity preparation are outlined. This chapter is followed by a brief discussion of the diseases of the pulp, periapical pathology and therapy. Inflammatory disturbances of the gingiva and mucous membrane are well illustrated, some by colored photographs. Extraction of teeth and surgical procedures are clearly described. Technical problems, such as bridge work, partial and full denture construction, are briefly outlined. Principles of orthodontia are expounded. At the end of the book, various prescriptions for such items as anesthetics, dentifrices and vitamins are given.

Some readers of this book might feel that it is too detailed for those who do not specialize and not enough detailed for those who do. However, the author himself knows this and considers this book merely as a guiding outline, containing only the main principles.—*Balint Orban.*

Aseptic Treatment of Wounds. By Carl W. Walter, M.D. 372 pages with 255 illustrations. Index. Price $9. New York: The Macmillan Company, 1948.

This book is evidently written as a manual. The supervisor of a hospital operating-room, for instance, would find it useful. The author's style is clear and direct. The first chapters are devoted largely to surgical asepsis and the men who contributed most to its development. The reader is reminded that aseptic surgery, although taken for granted in modern practice, is of comparatively recent origin. The septic conditions that followed surgical treatment a century ago are contrasted with modern conditions.

The author points out repeatedly that all such technics are based on certain scientific and exacting principles, and that these principles should dominate the preparation of all substances that are to come in contact with the surgical field.

Chemical and physical means of destroying bacteria are covered thoroughly and well. The various agents used for cold sterilization are described and evaluated as to their effectiveness; for example, the "critical" dilution of ethyl alcohol is pointed out. "A 70 per cent solution by weight," says the author, "is thirty times as powerful a germicide as 60 per cent and forty times as powerful as an 80 per cent solution." He also discusses the importance of having instruments free from oil when heat is employed as the sterilizing agent. Technics involving the use of boiling water, the autoclave and dry sterilization with heat are all described in detail.

Suggestions for practical application of the principles of sterilization form an important part of the book. Detailed instructions are given for the care of instruments and dressings; this part of the book should be of interest to dentists and oral surgeons. Operating room technic, as here described, covers the conduct of the surgeon. This should be helpful to the dentist who operates in a hospital.

Although many of the aseptic technics of major surgery should be followed by oral surgeons, some are impossible or impractical for him to apply. The book includes no technics for oral operations. It is therefore valuable to the dentist chiefly as a guide for the sterilization of instruments, fluids and dressings.—*Warren R. Schram.*

CASES AND COMMENTS

A Fused Third and Fourth Impacted Upper Right Molar. By W. H. Smith, D.D.S., Des Moines, Iowa.

A man, aged 22 years, came to the office for the removal of a fused third and fourth impacted upper right molar.

The operation was performed under Novocain-Pontocaine-Cobefrin anesthesia.[1] The technic used in removing this tooth included the usual buccal flap with incision over the tuberosity distal to the second molar. The tissue was retracted and the buccal alveolus removed to expose the buccal aspect of the crown. With a No. 557 cross-cut fissure bur and contra-angle, a mesial distal cut was made at the cemento-enamel junction. Later a long-shank fissure surgical bur was used in the contra-angle to complete the partial sectioning of the crown. An elevator was inserted in this cut and the crown portion was fractured and removed intact. With a Cryer elevator the buccal roots were removed, and with a straight apex elevator, by gentle "teasing," the lingual roots were later removed.

The measurements of the impaction were as follows: mesial distal of the buccal crown section 9.1 mm.; mesial distal of the lingual aspect of the crown 10 mm.; buccal lingual aspect of the crown 15.8 mm.; the divergence of the two lingual roots at the apex was 19.9 mm.

The region was inspected for any bone fragments and a small piece of oxidized cellulose was placed in the extraction wound. The tissue was brought back into original position and a suture was placed along the buccal flap to prevent a collapse of the tissue.

The patient was instructed to apply an ice pack intermittently and to return the next day. He had a comfortable night, with very little swelling, and recovery was normal.—*1408½ Harding Road.*

1. Procaine hydrochloride 2 per cent, tetracaine hydrochloride 0.15 per cent, nordefrin hydrochloride 1:10,000—Winthrop-Stearns, Inc.

Views of fused third and fourth impacted upper right molar, showing sections after removal (left) and appearance of crown (upper right) and root (lower right) portions

Mixed Tumor of the Lip: Report of a Case.

By John G. Whinery, M.S., D.D.S., Department of Oral Surgery, The State University of Iowa, Iowa City.

Mixed tumors have been reported in various sites, but their occurrence in the lip is relatively uncommon.

The histogenesis of mixed tumors of the salivary glands has long been a moot question. At the present time the theory of epithelial origin seems best to explain the occurrence of these tumors. Allen[1] proved quite definitely that cartilage and bone can develop from epithelial tissue, and thus answered the controversial question of origin of these tissues so frequently found in mixed tumors of the salivary glands. Cheyne,[2] in his recent review of mixed tumors of the salivary glands, groups them in three types. The case here reported is a fibromyxo-epithelioma, classified as type I.

Fig. 1.—Mixed tumor of the lip partially extruded through the incision

Mixed tumors are fundamentally benign; however, in certain reported cases malignant characteristics have been noted. In any event, early, complete excision is indicated. It behooves the dentist in every field of work to be aware constantly of such lesions.

A Negro man, aged 51 years, was found to have a small swelling in the right upper lip,

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From the U. S. Veterans Administration Hospital, Aspinwall, Pa.

1. Allen, A. C., So-Called Mixed Tumors of the Mammary Gland of Dog and Man, with Special Reference to the General Problems of Cartilage and Bone Formation. *Arch. Path.* 29:589 (May) 1940.

2. Cheyne, V. D., Tiecke, R. W., and Van Horne, Eleanor V., A Review of So-Called Mixed Tumors of the Salivary Glands Including an Analysis of Fifty Additional Cases. *Oral Surg., Oral Med. & Oral Path.* 1:359 (April) 1948.

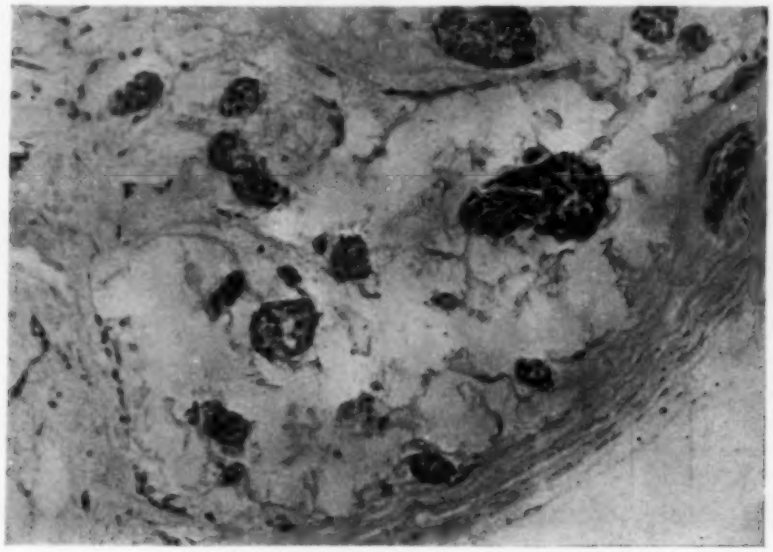


Fig. 2.—Peripheral section of mixed tumor of the lip (low power)

while impressions were being taken for complete dentures. The patient was not aware of the lesion. It was felt that this slight enlargement of the mucous surface might become irritated with the placing of dentures. He was referred for surgery.

Examination

The patient had been hospitalized with the diagnosis of bronchial asthma. Physical examination was essentially negative with the exception of some dry rales on inspiration and expiration. There was no family history of malignancy.

Bimanual palpation of the upper right lip revealed a small, rather firm, circumscribed mass immediately beneath the mucous surface. The teeth had all been extracted. There was no scarring of the lips or face and no other abnormality of the edentulous mouth. There were no palpable submental, submaxillary or cervical lymph nodes. A clinical diagnosis of fibro-adenoma was made at this time.

Operation

Two cubic centimeters of procaine hydrochloride were injected in the area of the right infra-orbital foramen. The lip was everted and the area prepared with tincture of "Metaphen." A vertical incision approximately 2 cm. long was made through the mucous membrane over the mass (Fig. 1). The mass was found to be encapsulated and was removed by blunt dissection. The wound was closed with interrupted silk sutures and the postoperative course was uneventful.

Pathology

The smooth, rounded, greyish tumor mass measured 1.5 by 1.2 by 0.8 cm. The cut surface was firm, greyish white and faintly mottled by pale, minute brown areas in the center. The section showed a circumscribed tumor composed of rounded and branching masses of small, oval or polygonal cells. Some of these cells had acidophilic cytoplasm but all were of fairly uniform size. The cell masses were widely separated by a pale-staining myxomatous stroma containing elongated stellate cells. Cystic areas were noted along one border of the tumor. In another part of the marginal tissue, there was a group of normal mucous glands of the salivary type and several ducts. The diagnosis was mixed tumor of the salivary gland of lip (Fig. 2).

Dentistry: An Aid in Archaeology.

By Ward B. McCartney, Jr., D.D.S., and Melvin L. Hermsmeyer, D.D.S., Kalamazoo, Mich.

By the application of chronology of the human dentition, a rather exact age can be given archaeologic specimens of children. This report deals with age determination of the skeletal remains of a child who died nearly five thousand years ago (Fig. 1). The child (possibly sacrificed as an offering to the gods) was placed in a large, flat-bottomed jar along with a shallow, flat-bottomed plate and small painted juglet.[1] The find was made June 18, 1932, in the North Cemetery of Tell en-Nasbeh which lies 8 miles (13 kilometers) north of Jerusalem. This particular burial probably took place sometime between 3000 and 2600 B.C.[2]

Upon recent study of the remains, we found that a fairly exact age can be given archaeologic specimens of children by correlating roentgenographic and gross findings with the chronology of the human dentition. The chronology of the human dentition five thousand years ago may have deviated somewhat from that of the present; however, we based our results on modern chronologic tables. We feel that from our findings enough cogent data has been obtained to give convincing proof that the skull of these remains was that of a child 16 to 24 months old.

By gross and roentgenographic examination of the partly mineralized mandibular remains, an accurate age determination seems possible. Some difficulty was encountered in the taking of roentgenographs. The mandible was only partially uncovered and complete removal seemed inadvisable owing to fragility of the bone and stony quality of the surrounding debris. Roentgenographic exposures were possible only on the right side. Improper angulation was caused by the height of the jar's sides.

Roentgenographs taken of the right mandible showed the first permanent molar crypt in the angle of the mandible (Fig. 2, left). Calcification of the crown seems to be about two-thirds completed or less. According to

1. *Tell en-Nasbeh.* (McCown, C. C., Archaeological and Historical Results.) New Haven, Conn.: American Schools of Oriental Research, 1947, vol. 1, p. 74.

2. Information provided in a private communication from the acting curator, Herbert Otwell, Berkeley, Palestine Institute of the Pacific School of Religion.

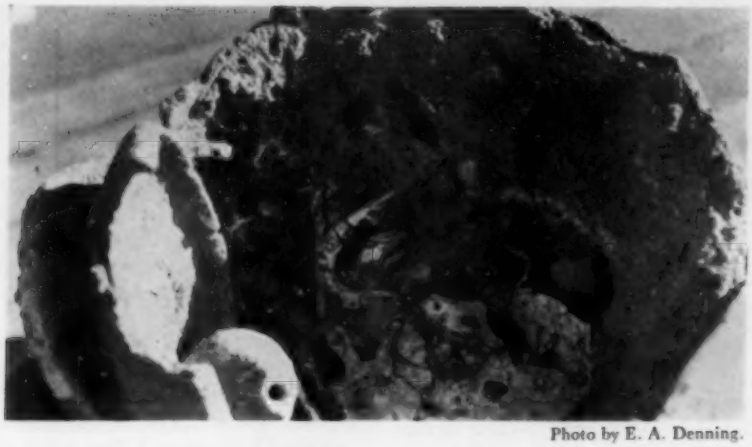


Photo by E. A. Denning.

Fig. 1.—Photograph of the skeletal remains of the child in the bottom of a large jar. A shallow plate and small juglet are at the left. The upper deciduous cuspid is lying in front of the mandible

Logan and Kronfeld,[3] calcification of a first permanent lower molar begins at birth and the enamel is completed in two and a half to three years.

The second deciduous molars were present on both sides surrounded by their crypts. The overlying bone had been resorbed but the cusps were just level with the bone surrounding the crypt. It seems unlikely that any of the cusps "cut" the tissue. Roentgenographs of the lower right second deciduous molar (Fig. 2, left and center) show that the enamel and crown were completely formed; however, the roots were just beginning their formation. In a normal dentition the enamel is completed about the tenth or twelfth month after birth. The root is completed at 2 or 2½ years of age.

Roentgenographs of the anterior region revealed a suspicious mass of calcification (Fig. 2, right). Upon macroscopic examination and a small amount of dissection, the incisal tip of the permanent central incisor was revealed. The three developmental lobes were fused but the incisal one-third of the crown was not yet completed. Usually the first evidence of calcification of permanent lower central incisors begins during the third or fourth month after birth. The enamel is completed during the fourth or fifth year.

An upper deciduous cuspid lying a few inches from the mandible was fully uncovered. Exploratory examination indicated that the root was approximately two-thirds formed. Logan and Kronfeld found that the root of a

3. Kronfeld, R., *Histopathology of the Teeth and Their Surrounding Structures.* Philadelphia: Lea and Febiger, 1939.

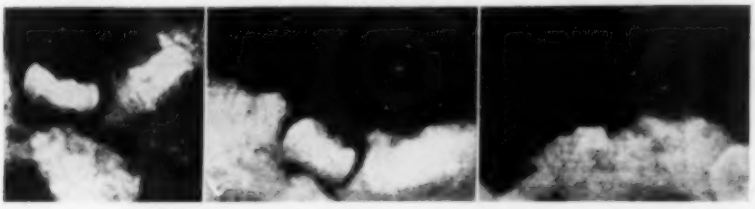


Fig. 2.—Roentgenographs of the right side of the mandible, showing unerupted deciduous second molar and first permanent molar in the ramus of the mandible

deciduous cuspid is completely formed about two and one-half to three years after birth.

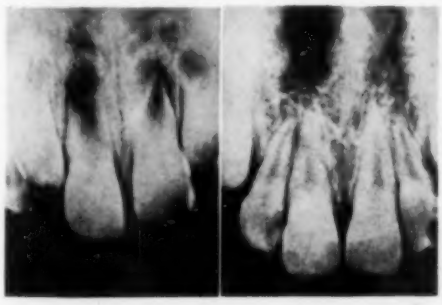
In examining the first deciduous molar, we observed that it was completely erupted. Since roentgenographs of this area could not be taken because of inaccessibility, the extent of the root formation could not be determined. In a normal dentition this eruption of the deciduous first molars occurs between the twelfth and sixteenth months.

Our conclusion, based on the data made available by Logan and Kronfeld, is that the five teeth indicate a fairly definite month grouping, in this case from sixteen to twenty-four months. This matter, however, has opened up two interesting areas for possible future investigation. The first is: Has the chronology of human dentition exhibited variations over the past five thousand years? The second: Would dental diagnosis aid in the study of those human skeletal remains encountered in archaeology and anthropology?—*608 Hanselman Building.*

Repair of Lacerated Gingiva and Exfoliated Permanent Incisor Crowns in a Child.

By Martin T. Siegel, D.D.S., Poughkeepsie, N. Y.

A girl, aged 7 years, first came to the office on December 20, 1944, with a laceration of the gingiva of the maxillary first incisor area and exfoliation of the maxillary left and right first permanent incisor crowns. As the figure (left) shows, root formation was just beginning. The crowns were dangling, being held only by the gingiva.



Left: Roentgenogram taken on December 20, 1944, after accident which lacerated the gingiva of maxillary first incisor region and exfoliated left and right first permanent incisor crowns. Right: Roentgenographic evidence of normal eruption and development in May 1948

With the aid of general anesthesia, the crowns were reinserted in their proper position and the gingiva was sutured.

At six month intervals, the teeth were roentgenographed. The roentgenogram for May 19, 1948 (right), shows normal development and eruption. Testing of the pulp indicated normal vitality.

The case is an example of the remarkable healing facilities present in normal, healthy children and the advantage of immediate treatment after accidents. This treatment was begun one hour after the accident.—*27 Cannon Street.*

The Magnifying Glass as an Aid in Examination Technic.

By Charles A. Levinson, D.M.D., Brookline, Mass.

How many times has a dentist overlooked a pin-point cavity in the proximal area of a molar? How often has he failed to discover gingiva that was badly inflamed posteriorly? How often has he failed to remove all subgingival calculus from the anterior teeth because of poor scrutinization?

This is not an implication of negligence on the part of the profession. The majority of dentists practice good dentistry to the best of their ability and skill. However, an additional aid could increase the efficiency of routine examinations.

The magnifying glass is used in many trades. Observe the jeweler with his "loupe" repairing a minute piece of watch mechanism. Machinists use it—also carvers, sculptors, artists and hundreds of others in all trades and professions. It is very seldom seen in use in dental offices.

I use a magnifying glass with a +5.00 diopter lens, surveying the teeth and gingivae through the lens with the spotlight focused on the patient's mouth.

The best results are obtained by holding it approximately 5 inches from the mouth. It is amazing what can be discovered by use of a magnifying glass in addition to a mirror and an explorer. It would be unwise to work with it all day, as it would strain the eyes. But it is essential in the prechecking and postchecking of each operation.

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Experiment

A revealing experiment is to drill and excavate a badly carious cavity on the occlusal surface of a superior third or second molar, using the miror and explorer without the aid of a magnifier. Examine the finished cavity preparation with the mirror. Are you satisfied that the work has been perfectly performed?

Now examine the dental operation with the type of magnifier mentioned, using the mouth mirror as well. Perhaps it may be seen that a fragment of decay still remains, that the enamel walls are left very thin on the occlusal surface and the cavity preparation is not perfectly prepared; one also discovers how close the preparation is to the horns of the pulp.

Uses

Even with visual acuity, perfect dental service cannot be rendered without the use of a magnifying glass before and after operations. The magnifier is of particular importance to members of the profession who have arrived at the age of 40. After that age the muscles of the eyes relax and cannot focus properly on near objects. They are seen indistinctly owing to a change in the refractive power of the eye caused by rigidity of the crystalline lens, characteristic of old age. When this occurs, one definitely needs glasses to correct this eye impairment in order to perform finely defined work.

In using the magnifier, the dentist's head should be between the glass and the spotlight, so that a reflected image appears in the lens and the patient can see what the dentist wishes him to. The reflected image seen by the patient is slightly smaller than the real image which the dentist observes. Allowing the patient to watch the operation is excellent psychology; it stamps the dentist as a truly scientific man who strives for perfection.

The patient feels better when the work is completed with the use of a magnifying glass; he knows that it has been performed with the utmost skill and ability.

In routine roentgenographic examination and interpretation, the magnifier must be used to insure that no details are overlooked.

The use of the magnifying glass is another step toward the goal of preventive dentistry which should be the aim of all dentists.—*16 Hamilton Road.*

Copper Plating Bandless Impressions.

By Stanley Sutnick, D.D.S., Miami Beach, Fla.

In recent years copper plating has become popular because of the accurate and durable dies that can be produced. However, many men have refrained from using this material because of the work involved in festooning copper bands and the probability of distorting impressions when compound is forced below the height of contour of the tooth.

By using a steel matrix holder and band as in a complex amalgam restoration, one can save chair time, adapt the band more accurately to the gingival margins and avoid forcing the impression material past the height of contour. The matrix band is adapted tightly so as to avoid any gingival overhanging which may cause distortion in removal of the pattern, and if necessary a wedge is used.

Once a satisfactory impression has been obtained, remove the steel band and trim away any excess beyond the limits of the matrix band until a nicely rounded impression is secured. Then soften a small strip of beeswax and adapt to the proximal portions of the impression so as to obtain a nicely finished margin on the die. Use care not to distort any of the margins while adapting the wax.

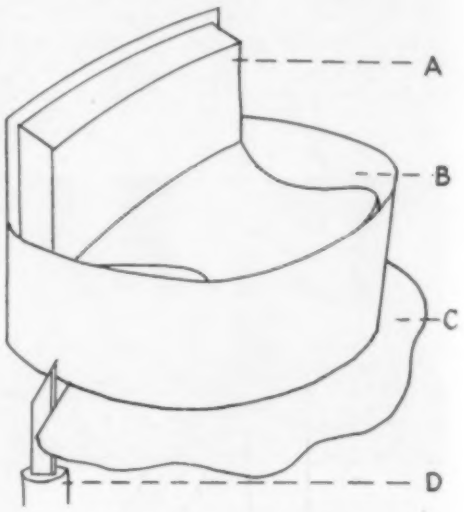

Fig. 1.—Impression made with aid of sharp knife. (A) Cavity preparation. (B) Surface of tooth above height of contour. (C) Excess impression material. (D) Knife

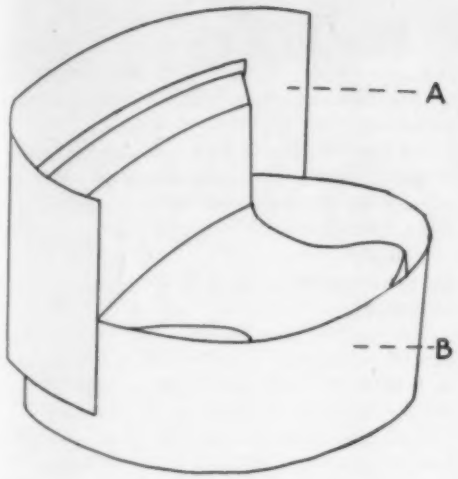

Fig. 2.—Impression with beeswax strip. (A) Beeswax closely adapted to proximal regions. (B) Impression

The impression is mounted on the anode with soft carding wax. It is not necessary for the impression to make contact with the metal. Once it has been mounted, a groove is cut in the carding wax to expose some of the metal of the anode. If a space exists under the impression, it must be filled with wax. Metallizing graphite is painted on the exposed metal of the anode, up over the wax and onto the impression.

The impression is mounted in the electroplater, and when the copper begins to climb from the groove into the impression, the groove may be covered with carding wax so that when the plating is completed it can be trimmed off easily. Plating takes place more quickly than with a copper band, and it is much easier to see into the depths of the impression and check on the plating process as it progresses.

When the impression is completely plated, a root tip is built with stone or low-fusing metal and mounted in the bite to form an articulating model. The wax pattern now can be carved accurately on a die with great strength. Finishing, burnishing and polishing can be done without fear of distorting or destroying the die.

This method saves chair time, protects the gingiva and helps eliminate distortion of the impression. A durable accurate die is produced that enables production of an accurate, finely finished casting.—*605 Lincoln Road.*

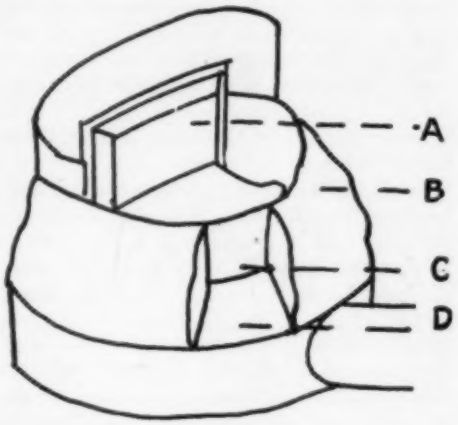

Fig. 3.—Groove cut in carding wax. (A) Impression. (B) Carding wax. (C) Groove cut to expose metal. (D) Cathode of electroplater

▲

Minimizing Anesthetic Side Reactions.—Clinical experience has shown that the side reactions of local anesthetics can be minimized by use of the following precautions: (1) The use of sharp needles and slow injection of the solution. (2) The use of the smallest quantity of the least toxic anesthetic which will produce satisfactory anesthesia. (3) In case a patient is known to have a tendency to react to local anesthetics, premedicate with a suitable barbiturate and give the injection with the patient tilted back in the dental chair in the supine position.—*Accepted Dental Remedies, edition 14, page 41.*

CURRENT LITERATURE

Journal of Oral Surgery
July 1948

Titles marked with an asterisk are reviewed below by H. L. Hubinger.

*The Cause and Treatment of Hemorrhage. Kurt H. Thoma, Boston.—185.

*The Importance of Biopsy in Oral Diagnosis. Reed O. Dingman, Ann Arbor, Mich.—204.

*Studies in Bone Healing: Stimulation of Healing in Long Bones by Use of Artificial Material. W. R. Schram and L. S. Fosdick, Chicago.—209.

*Fibrous Dysplasia of Facial Bones With Reports of Cases. Alton K. Fisher, New Orleans.—218.

*Tic Douloureux: Treatment and Dietary Control. George M. Prince, Pasadena, Calif.—228.

*The Use of Protein in Oral and Maxillofacial Surgery. Robert L. Harding, Harrisburg, Pa. —235.

*Eosinophilic Granuloma of Bone With Report of Case. Raymond R. Kauffman, San Francisco. —245.

*Adamantinoma of the Mandible: Report of Case. Joseph E. Schaefer, Chicago.—252.

Tuberculous Osteomyelitis of the Mandible With Report of Case. Orion H. Stuteville and Franklin F. Hulswit, Chicago.—255.

*Eosinophilic Granuloma of the Mandible: Report of Case. Wilson R. Conran, Hartford, Conn. —260.

Phosphorous Necrosis of the Mandible: Report of Two Cases. B. G. Wakefield, Buffalo.—263.

Calcified Odontogenic Tumor (Dentinoma) of the Mandible: Report of Case. Robert G. Knapp, Utica, N. Y.—269.

Osteomyelitis of the Ramus of the Mandible: Report of Case. Ralph W. Taylor, Alameda, Calif. —272.

The Cause and Treatment of Hemorrhage. Kurt H. Thoma.

Thoma lists and classifies the many pathologic conditions in which hemorrhage may be present. Capillary fragility accompanies a number of diseases, especially scurvy, and may be due to lack of vitamin P, or citrin.

Prothrombinopenia may be corrected by the use of vitamin K and bile salts. This condition may be due in some cases to the prolonged use of acetylsalicylic acid.

Patients under anticoagulant (heparin or dicoumarin) therapy should not be subjected to surgical intervention until the drug has been withdrawn.

For local treatment of postextraction hemorrhage, the author recommends the use of cones which contain thrombin (of human origin) and tyrothricin.

The Importance of Biopsy in Oral Diagnosis. Reed O. Dingman.

The author recommends the cold sharp blade for obtaining biopsy specimens about the oral cavity in most cases. When possible an elliptic section of tissue should be removed from a margin of the lesion, and should include normal tissue at the periphery. The vertical cuts should be made to procure a *V* shaped section.

There are few, if any, dangers in removing biopsy specimens from the oral region unless melanoma is suspected. Lesions suggesting this diagnosis should be removed in their entirety.

All abnormal tissues removed from the region of the oral cavity should be submitted for examination.

Studies in Bone Healing: Stimulation of Healing in Long Bones by Use of Artificial Material. W. R. Schram and L. S. Fosdick.

A complete section of dog radius with its periosteum was removed and replaced with a cylinder containing pure mineral salts, as they are present in bone, in a gelatin matrix. The cylinder was used to protect the original blood clot between the bone ends from the differentiated connective tissue about the fracture and thus prevent a fibrous union, which would occur if no protection were given. Roentgenograms revealed that bony union occurred.

Fibrous Dysplasia of Facial Bones with Reports of Cases. Alton K. Fischer.

Three cases of fibrous dysplasia of bone are presented. Final diagnosis depends on microscopic evidence. The lesions in a single individual tend to be distributed unilaterally, and are composed of connective masses with incomplete and varying osteogenic capacities. The cause of the disease is unknown, and specific management is not yet established. Surgical intervention has been employed with varying results.

Tic Douloureux: Treatment and Dietary Control. George M. Prince.

Prince studied a series of 49 patients with tic douloureux of various intensities. Their histories frequently indicated poor nutritional habits. The total food intake sometimes was as low as 1,000 calories daily, and consisted mainly of carbohydrates. Very little red meat, proteins or dairy products were consumed. This led to the belief that susceptibility to tic douloureux could be related closely to the nutritional state and vitamin sufficiency of the body.

Correction of achlorhydria; a daily diet of 2,000 calories with minimal carbohydrates, 125 Gm. of protein and 250 Gm. of carbohydrate, and the administration of thiamin, riboflavin, nicotinic acid and ascorbic acid apparently relieved the patient of this difficulty. A survey of the data indicates that control of dietary factors has brought relief to many.

The Use of Protein in Oral and Maxillofacial Surgery. Robert L. Harding.

Harding emphasizes the need for adequate intake of protein to promote wound healing. Various methods of supplying adequate protein are discussed. They include feeding through the Levine tube and intravenous administration of hydrolysates when indicated. Diets to insure adequacy of protein are listed.

With moderately severe injuries a daily diet supplying 120 Gm. of protein with interval feedings of a concentrated protein mixture would seem desirable. With minor fractures a protein intake of 80 Gm. probably is adequate. Caloric, carbohydrate, vitamin and fluid requirements also must be met.

Eosinophilic Granuloma of Bone with Report of Case. Raymond R. Kauffman.

The author discusses the three so-called xanthomatoses, Letterer-Siwe disease, Schuller-Christian disease and eosinophilic granuloma. A case of eosinophilic granuloma in a 3-year-old boy is reported.

Letterer-Siwe disease is apparently the acute, septic form, fatal within weeks or months. Histologically it is considered to be a nonlipoid histiocytosis. Schuller-Christian disease is the more chronic variant. Histologically it is considered to be a lipogranulomatosis. Eosinophilic granuloma of bone is the most benign variant of the three. Histologically the lesion is considered to be a chronic granuloma of bone.

Adamantinoma of the Mandible: Report of Case. Joseph E. Schaefer.

Schaefer reports a case of recurrent adamantinoma of the right mandible that involved the greater share of the body and ramus. After ligation of the external carotid artery, an external osteotomy was performed. An acrylic ramus splint was placed in the future bone graft bed. About one year later a bone graft of the seventh rib was used to restore the lost half of the mandible.

Eosinophilic Granuloma of the Mandible: Report of Case. Wilson R. Conran.

Conran reports a case of swelling in the left cheek and mandible of a boy aged 17. Roentgen evidence suggested osteogenic sarcoma, odontogenic cyst or radicular cyst. The lesion involved a good portion of the body of the mandible in the bicuspid and molar regions. Two badly broken down molars were involved in the area. Microscopic sections revealed masses of eosinophilic polymorphonuclear leukocytes and mononuclear cells arranged in reticular connective tissue cells in irregular masses. There were large eosinophilic granules in the mononuclear cells.

Roentgenograms of other bones revealed no evidence of similar abnormality. The patient made an uneventful recovery.

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Babb, John W., Peoria, Ill.; Keokuk Dental College, 1902; died January 1.

Bailey, Edgar, Albion, N. Y.; Dental Department, Starling-Ohio Medical College, 1910; died October 29.

Bailey, James R., Louisville, Ky.; School of Dentistry, University of Louisville, 1934; died January 12; aged 37.

Bard, Robert E., Fulton, Ky.; College of Dentistry, University of Tennessee, 1934; died December 22; aged 43.

Bartlett, Walter M., St. Louis; School of Dentistry, Washington University, 1890; died December 15; aged 86.

Bay, Roy, Syracuse, N. Y.; School of Dentistry, Washington University, 1899; died November 12; aged 75.

Bishop, Burton F., New Haven, Conn.; School of Dentistry, University of Pennsylvania, 1899; died December 7; aged 74.

Boone, Thomas E., Dinuba, Calif.; Dental School, Northwestern University, 1912; died October 28; aged 63.

Bush, Alden J., Columbus, Ohio; College of Dentistry, Ohio Medical University, 1902; died December 8; aged 72.

Cerney, Wilhelmina A., Oak Park, Ill., died December 11; aged 51.

Chesterson, W. G., St. Louis; School of Dentistry, St. Louis University, 1923; died December 13; aged 50.

Childs, Theron B., Glencoe, Ill.; Chicago College of Dental Surgery, Dental Department, Loyola University, 1907; died January 7; aged 69.

Creed, John J., South Boston, Mass.; Tufts College Dental School, 1900; died December 15; aged 76.

Cutteridge, George A., Woodstock, Ill.; Chicago College of Dental Surgery, Dental Department, Loyola University, 1897; died December 14; aged 93.

Dale, James A., Nashville, Tenn.; School of Dentistry, Vanderbilt University, 1891; died December 30; aged 83.

Daly, E. C., Pittsburgh; School of Dentistry, University of Pennsylvania, 1924; died December 27; aged 46.

Davidson, John E., West Point, Ga.; School of Dentistry, Indiana University, 1910; died December 7.

Davidson, Frederick V., Minneapolis; College of Dentistry, University of Minnesota, 1919; died December 30; aged 56.

Davis, Walter R., Whiteville, N. C.; Atlanta Dental College, 1896; died December 6; aged 81.

Donovan, John F., Buffalo; School of Dentistry, University of Buffalo, 1918; died December 17; aged 58.

Dunn, Frank M., Mount Kisco, N. Y.; New York College of Dentistry, 1888; died January 5; aged 85.

Flynn, Edward D., Gordon, Neb.; College of Dentistry, Creighton University, 1926; died December 24; aged 44.

Frank, Albert, Philadelphia; Pennsylvania College of Dental Surgery, 1896; died January 10; aged 74.

Furniss, Frank C., Columbus, Ohio; College of Dentistry, Ohio Medical University, 1905; died December 2; aged 68.

Hall, H. Rush, Cleveland; died November 22; aged 56.

Ham, Alton S., Apalachicola, Fla.; Atlanta Dental College, 1904; died December 6; aged 66.

Haynes, G. F., Laurel, Miss.; College of Dentistry, University of Tennessee, 1904; died December 6; aged 70.

Hendricks, William J., Indianapolis; Indiana Dental College, 1919; died December 20; aged 54.

Hoblitzell, William H., Cincinnati; Ohio College of Dental Surgery, Dental Department, University of Cincinnati, 1910; died December 19; aged 63.

Hope, Louis O., Hutchinson, Kan.; Kansas City Dental College, 1914; died November 2; aged 62.

Ireland, Thomas J., Joliet, Ill.; died December 22; aged 73.

Jensen, Arel I., Boise, Idaho; Chicago College of Dental Surgery, 1926; died December 6.

Jones, Paul, Rochester, N. Y.; School of Dentistry, University of Louisville, 1919; died December 26; aged 62.

Krause, Daniel P., Framingham, Mass.; died December 6; aged 53.

Kyes, Walter S., San Diego, Calif.; Chicago College of Dental Surgery, 1902; died December 6; aged 77.

Miller, Abraham L., Jersey City; College of Dental and Oral Surgery of New York, 1915; died December 11; aged 75.

Morgan, Hugh D., Youngstown; College of Dentistry, Ohio Medical University, 1905; died December 28; aged 72.

Nixon, Richard E., Duluth, Minn.; Chicago College of Dental Surgery, 1899; died December 25; aged 73.

O'Brien, Francis H., New York; New York College of Dentistry, 1918; died December 11.

Oesterly, Otto E., Indianapolis; Ohio College of Dental Surgery, University of Cincinnati, 1901; died December 23.

Olcott, Harry L., Chicago; Chicago College of Dental Surgery, 1900; died December 12; aged 71.

Ott, Charles W., Scarsdale, N. Y.; School of Dentistry, Washington University, 1890; died December 12; aged 83.

Parker, Fredrich D., Peoria, Ill.; died December 12; aged 64.

Plonty, Earl W., Minneapolis; College of Dentistry, University of Minnesota, 1918; died December 29; aged 53.

Powell, Roscoe R., Janesville, Wis.; Chicago College of Dental Surgery, 1889; died December 21; aged 83.

Pyles, Charles T., Hancock, Md.; Baltimore College of Dental Surgery, University of Maryland, 1905; died December 20; aged 63.

Roberts John N., Washington, D. C.; died December 24; aged 69.

Rohde, Frank G., Columbus, Neb.; College of Dentistry, Creighton University, 1918; died December 14; aged 52.

Rome, Harry C., Chicago; Chicago College of Dental Surgery, 1914; died December 28; aged 62.

Rozan, Henry J., Syracuse, N. Y.; School of Dentistry, University of Buffalo, 1927; died December 19; aged 47.

Rozen, Ralph E., Tulsa, Okla.; School of Dentistry, St. Louis University, 1927; died December 5; aged 45.

Russell, Percy W., Arden, Del.; died December 29; aged 81.

Sale, Tommy, Seattle; died in November; aged 26.

Samuels, Robert J., New York City; New York College of Dentistry, 1914; died in December.

Sangster, A. E., Cheboygan, Mich.; Philadelphia Dental College, 1890; died December 16; aged 81.

Sarsoun, Charles L., Maywood, Ill.; College of Dentistry, University of Illinois, 1931; died in January.

Scharenbroich, E. E., St. Paul; Chicago College of Dental Surgery, 1916; died December 24; aged 59.

Schwartz, Jacob W., Bridgeport, Conn.; New York College of Dentistry, 1914; died December 19; aged 59.

Senick, Robert F., Chicago; Dental School, Northwestern University, 1917; died December 24.

Shultz, Leonard E., Muskegon, Mich.; School of Dentistry, Temple University, 1939; died October 27; aged 32.

Slemmons, William J., Cleveland; School of Dentistry, Western Reserve University, 1894; died November 29; aged 78.

Smith, H. Fred, Cleveland; School of Dentistry, Western Reserve University, 1906; died December 9; aged 74.

Snyder, Fred C., Culver City, Calif.; College of Dentistry, University of Southern California, 1929; died October 19; aged 52.

Stoddard, L. B., Chico, Calif.; College of Physicians and Surgeons, 1927; died November 26.

Thayer, Eugene A., Pontiac, Ill.; Pennsylvania College of Dental Surgery, 1894; died December 30.

Tiley, Charles B., Middletown, Conn.; died January 7; aged 87.

Walsh, Francis K., Troy, N. Y.; School of Dentistry, University of Pennsylvania, 1918; died January 3.

Weber, Wayne H., Elmwood, Ill.; Chicago College of Dental Surgery, 1925; died December 21.

Webster, Fred W., Lincoln, Neb.; Lincoln Dental College of Cotner University, 1909; died December 30; aged 64.

Weeks, Arthur F., Portland, Ore.; School of Dentistry, North Pacific College of Oregon, 1913; died December 14; aged 61.

Williams, Gilbert R., St. Louis; died December 6; aged 74.

Witmore, Carl, Portland, Mich.; died in December; aged 80.

Wood, Fred S., Bellefontaine, Ohio; Ohio College of Dental Surgery, University of Cincinnati, 1907; died December 29; aged 67.

Wright, J. A., Havre, Mont.; Chicago College of Dental Surgery, 1895; died January 2; aged 80.

Zuckerberg, Irwin, Long Beach, N. Y.; College of Dentistry, New York University, 1932; died October 15; aged 40.

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UNIVERSITY OF MICHIGAN LIBRARIES

ANNOUNCEMENTS

MEETINGS OF STATE SOCIETIES

State	Date	Place	Secretary	Address
Alabama	May 2-4	Biloxi	G. W. Matthews	1922 Tenth Ave., S., Birmingham 5
Arizona			H. G. DeWolf	Valley National Bank Bldg., Tucson
Arkansas	April 24-27	Little Rock	D. M. Hamm	White Bldg., Clarksville
California	April 25	San Francisco	L. E. Linehan	450 Sutter St., San Francisco
S. California	April 4-6	Los Angeles	M. E. Ralston	Medico-Dental Bldg., Pomona
Colorado	May 25-27	Colorado Springs	R. A. Downs	724 Republic Bldg., Denver 2
Connecticut			E. S. Arnold	37 Linnard Rd., W. Hartford
Delaware			G. Zurkow	301 Medical Arts Bldg., Wilmington 9
D. of Columbia			K. H. Wood	202-1835 Eye St., N.W., Washington
Florida			L. M. Schulstad	Professional Bldg., Bradenton
Georgia			J. M. Heard, Jr.	Persons Bldg., Macon
Hawaii			J. H. Dawe	P. O. Box 39, Honolulu 10
Idaho			H. R. Packard	Idaho Falls
Illinois	May 9-12	Peoria	P. W. Clopper	623 Jefferson Bldg., Peoria 2
Indiana	May 16-18	Indianapolis	E. E. Ewbank	Kingman
Iowa	May 2-4	Des Moines	H. I. Wilson	639 Insurance Exchange Des Moines
Kansas	May 22-25	Topeka	F. A. Richmond	1008 Huron Bldg., Kansas City
Kentucky	April 3-6	Louisville	A. B. Coxwell	1976 Douglass Blvd., Louisville
Louisiana	June 1-4	New Orleans	J. S. Bernhard	407 Medical Arts Bldg., Shreveport
Maine			P. W. Anderson	32 Deering St., Portland 3
Maryland	May 2-4	Baltimore	E. L. Pessagno, Jr.	415 Medical Arts Bldg., Baltimore 1
Massachusetts	May 2-5	Boston	P. E. Adams	106 Marlborough St., Boston
Michigan	April 11-13	Detroit	F. Wertheimer	Michigan Department of Health, Lansing
Minnesota			C. V. E. Cassel	242 Lowry Medical Arts Bldg., St. Paul
Mississippi	April 10-13	Vicksburg	F. C. Sneed	Osyka
Missouri	April 10-13	St. Louis	D. E. Hooper	K. P. Bldg., Boonville
Montana	May 5-7	Bozeman	C. S. Renouard	304 Phoenix Bldg., Butte
Nebraska	May 9-11	Lincoln	F. A. Pierson	Federal Securities Bldg., Lincoln
Nevada	June 3-4	Reno	L. G. Jacob	505 Chestnut St., Reno
New Hampshire			F. E. Williams	814 Elm St., Manchester
New Jersey	April 26-29	Atlantic City	J. G. Carr	407 Copper St., Camden
New Mexico			J. S. Eilar	First National Bank Bldg., Albuquerque
New York	May 10-13	Buffalo	C. A. Wilkie	1 Hanson Place, Brooklyn
North Carolina	May 19-21	Pinehurst	R. F. Hunt	Rose Drug Co. Bldg., Rocky Mount
North Dakota	May 8-11	Bismarck	A. L. Smeby	Northwood
Ohio	Nov. 7-10	Columbus	E. G. Jones	185 E. State St., Columbus
Oklahoma	April 10-13	Oklahoma City	E. H. Binkley	Hennessey
Oregon			W. H. Hurley	722 Selling Bldg., Portland 5
Panama Canal Zone			R. O. Leon	Box 1094, Ancon
Pennsylvania	June 1-3	Pittsburgh	J. Wittek	217 State St., Harrisburg
Puerto Rico			E. Capo	9 Villa St., Ponce
Rhode Island			A. A. Albert	84 Broad St., Pawtucket
South Carolina	May 1-3	Myrtle Beach	J. R. Owings	201 E. North St., Greenville
South Dakota	May 15-17	Aberdeen	E. W. Elmen	Sioux Falls
Tennessee	May 16-19	Knoxville	E. J. Justis	Exchange Bldg., Memphis
Texas	May 2-5	Houston	W. Ogle	313 Medical Arts Bldg., Dallas
Utah			H. R. Nordberg	807 Tribune-Telegram Bldg., Salt Lake City
Vermont	May 22-24	Woodstock	J. A. Larrow	Middlebury
Virginia	April 11-13	Roanoke	J. E. John	804 Medical Arts Bldg., Roanoke
Washington	June 20-22	Seattle	F. J. Dingler	1502 Medical-Dental Bldg., Seattle 1
West Virginia	May 19-21	Wheeling	C. J. Gavelda	Clarksburg
Wisconsin	April 19-21	Milwaukee	R. A. Mason	964 N. 27th St., Milwaukee 2
Wyoming	June 19-22	Laramie	T. A. Ward	Casper

OTHER MEETINGS

Name	Date	City	Secy. or Chmn.	Address
Academy of Denture Prosthetics	June 13-18	Indianapolis	I. L. Furnas Secy.	928 Silverado St., La Jolla, Calif.
American Academy of Cleft Palate Prosthesis	Mar. 21-22	Columbus	V. L. Steffel Dir. of Pub.	19 W. Fifth Ave., Columbus
American Board of Orthodontics	April 28-May 1	New York	S. C. Hopkins Secy.	1726 Eye St., N.W., Washington 6, D.C.
American Dental Association, Nineteenth Annual Meeting	Oct. 17-20	San Francisco	H. Hillenbrand Secy.	222 E. Superior St., Chicago 11
American Dental Hygienists' Association, Twenty-Sixth Annual Meeting	Oct. 17-21	San Francisco	A. Rebekah Fisk Secy.	1830 Eye St., N.W., Washington, D.C.
American Dental Society of Europe	Aug. 3-6	Paris	F. D. Derrick Secy.	140 Park Lane, London, W. 1
American Public Health Association, Seventy-Seventh Annual Meeting	Oct. 23	New York	R. M. Atwater Secy.	1790 Broadway New York 19
American Society for the Advancement of General Anesthesia in Dentistry	Mar. 28	New York	M. H. Feldman Secy.	730 Fifth Ave., New York
Canadian Dental Association, Annual Convention	June 6-8	Saskatoon	D. W. Gullett Secy.	211 Huron St., Toronto
Cincinnati Dental Society, March Clinic and Children's Dental Health Day	Mar. 20-22	Cincinnati	R. L. Holle Chm. Pub. Comm.	Doctors Bldg., Cincinnati 2
District of Columbia Annual Postgraduate Clinic	Mar. 13-16	Washington	S. G. Mead Secy.	1149 16th St., N.W., Washington
Federacao Odontologica Brasileiro, Fourth Congresso	July	Recife, Brazil	R. Ewerton	277 Avenida Rio Branco, Rio de Janeiro
Mid-Atlantic States Seminar in Oral Medicine	May 22-27	Pocono Mountains	L. W. Burket Dir. Postgraduate Divn.	4001 Spruce St., Philadelphia
Ohio State University Post-Collegiate Assembly	April 27-28	Columbus	V. C. Steffel Pub. Chmn.	19 W. 5th Ave., Columbus
Ontario Dental Association, Eighty-Second Annual Convention	May 16-18	Toronto	Dorothy Jutton Secy.	86 Bloor St., West Toronto 5
Temple Alumni, Annual Gathering	April 27-28	Philadelphia	A. L. Borish	1210 Medical Tower, Philadelphia 3
Thomas P. Hinman Mid-Winter Clinic, Thirty-Sixth Annual Meeting	Mar. 20-23	Atlanta	J. A. Broach Chmn.	1105 Doctors Bldg., Atlanta, Ga.
University of Kansas City, School of Dentistry, Kansas City-Western Dental College, Alumni Association, Annual Dinner	Mar. 21-22	Kansas City	C. W. Sawyer Secy.	1108 E. Tenth St., Kansas City 6
Washington University, Dental Alumni Annual Meeting	Mar. 18-19	St. Louis	V. P. Thompson Secy-Treas.	234 W. Lockwood Ave., Webster Groves, Mo.

MEETINGS OF STATE BOARDS OF DENTAL EXAMINERS

State	Date	Place	Secretary	Address
Arkansas	June 20-23	Little Rock	H. E. Hanna	Wilson Building, El Dorado
California	June 13 July 25	Los Angeles San Francisco	K. I. Nesbitt	Room 307, 507 Polk Street, San Francisco 2
Connecticut	June 14-18*	Hartford	C. G. Brooks	302 State St., New London

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State	Date	Place	Secretary	Address
Indiana	June 13-16	Indianapolis	C. A. French	Gary National Bank Bldg., Gary
Iowa	May 30-June 3	Iowa City	H. M. Willits	719 Roshek Bldg., Dubuque
Kansas	May 31-June 3	Kansas City	G. L. Teall	Hiawatha
Kentucky	June 20-23*	Louisville	R. I. Todd	Western Union Bldg., Richmond
Michigan	May 23-28	Ann Arbor	J. L. Champagne	502 David Whitney Bldg., Detroit 26
Mississippi	June 21-23	Jackson	J. C. Boswell	508 Lamar Life Bldg., Jackson
New Jersey	June 6-10		W. A. Wilson	150 E. State St., Trenton
New Mexico	June 27-30	Santa Fe	J. J. Clark	Artesia
North Carolina	June 27-30	Raleigh	F. O. Alford	Charlotte
Ohio	June 13-15† June 20-22† June 27-29**	Columbus Cleveland Columbus	E. D. Lowry	79 E. State St., Columbus
Vermont	June 27-29	Montpelier	F. A. Reid	Windsor
West Virginia	June 27-29	West Liberty	R. H. Davis	510-16 Goff Bldg. Clarksburg

*Dental and dental hygiene examination
†Practical examinations
**Theory examinations